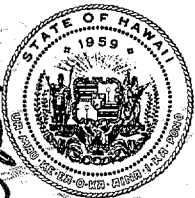


Hawaii, Department of Planning and Economic Development

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DEPARTMENT OF PLANNING AND ECONOMIC DEVELOPMENT

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2234 SOUTH HOPESON AVENUE
CHARLESTON, SC 29405-2413

prepared by:

Gerald S. Clay, Esq., Principal Author
Sherry Broder, Esq., Author, Editor
Ronald Turner, Author, Editor
Don S. Kitaoka, Author
Gregory L. Rhodes, Author
Dennis K. Yamase, Student Intern

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for

Aquaculture Development Program,
Department of Planning and Economic Development
Division of Fish and Game,
Department of Land and Natural Resources
State of Hawaii

Project Managers:

John S. Corbin and William A. Brewer
Department of Planning and Economic Development

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FOREWORD

Hawaii's people are surrounded by a bountiful ocean rich in mineral, food, energy and other resources. To the ancient Hawaiians, the ocean was a natural extension of the land -- a place to work, play, and travel. In the past decade, Hawaii has again turned its gaze "makai" -- toward the sea -- to generate new ocean-related jobs and revenues in scientific research, food production, energy and the gathering of minerals.

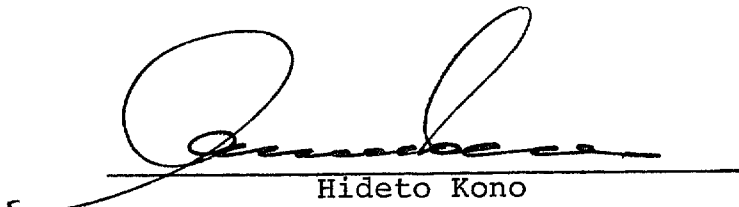
The research, development and demonstration of viable ocean technologies is moving forward rapidly in the Islands. Prospects for additional major private commercial investments appear promising. Floating and submerged sea-farming operations may produce many tons of fish, shellfish, and sea plants. Electricity for Island homes, and a host of useful by-products, may be derived from the ocean's thermal gradient through OTEC -- Ocean Thermal Energy Conversion -- while barren surface waters are fertilized with nutrient-rich effluents. Sea-fishery harvests may be increased to major proportions through widespread placement of already successful fish-aggregating devices. Manganese nodules with considerable content of copper, cobalt, manganese and other minerals may be gathered from the sea floor, and processing facilities may be located in the Islands. Technologies not yet engineered may be used to make the oceans more hospitable for living and working.

For such developments to become reality or expand, careful study and planning are essential. This new volume, Ocean Leasing for Hawaii, makes an important contribution toward furthering rational development of Hawaii's ocean resources. It is a comprehensive study which examines the state-of-the-art of three advanced ocean technologies -- mariculture, OTEC, and fish-aggregation devices. It also assesses the major policy issues related to ocean development, constraints to fostering commercial ocean activities, and current legal and regulatory issues which govern State jurisdiction over ocean areas.

The report also makes significant legislative proposals which address the legal and policy issues, and the recommendations related to them. Some are timely and merit immediate consideration. Others are excellent for future consideration as technologies and private investment develop. All most certainly provide excellent food for thought for interests in both the public and private sectors.

Hawaii is an ocean State. Its future will depend largely on the ability of Hawaii's people to understand this more fully, and to make wiser use of their ocean resources. Opportunities and challenges abound. Many questions must still be answered, many assurances given, many cautions observed, and many other steps taken before the vision of achieved ocean riches becomes reality.

But the basic course is now clear: Encourage ocean-use activities which are environmentally sound, which carry out the goals, objectives, policies and priority directions of the Hawaii State Plan, and which enhance the quality of life in the Islands. This far-reaching report on Ocean Leasing for Hawaii should be read and absorbed by all interested in seeing Hawaii become truly one with the sea.



Hideto Kono
Director, State Department of
Planning and Economic Development

PREFACE

This report on Ocean Leasing for Hawaii is the culmination of various political, governmental, and private-sector work. The 1978 State of Hawaii Constitutional Convention authorized the State Legislature to enact guidelines for mariculture operations. Thereafter, in 1979, the State of Hawaii House of Representatives passed H.R. 474 which directed the State Administration to analyze the state of the law and develop guidelines for the licensing of mariculture operations in state marine waters.

The State of Hawaii Department of Planning and Economic Development and State Department of Land and Natural Resources sought out and obtained funding for such a project from the Federal Office of Coastal Zone Management.

As interest in the study increased, it was requested that the parameters of the study be broadened to include an investigation and analysis of ocean leasing, which would necessarily encompass ocean thermal energy conversion devices as well as fish aggregation buoys. The Aquaculture Development Program of the Department of Planning and Economic Development acted as Manager of the study.

The Department of Planning and Economic Development selected Gerald S. Clay of the law offices of Stanton and Clay, Honolulu, Hawaii, as consultant to prepare the report. A team of individuals with broad backgrounds in ocean research and legal matters involving the ocean was assembled and a framework was developed to solicit a broad base of input.

The team was committed to obtain input from local, national, and international resources. Over 300 requests were sent to universities and research institutions, governmental agencies, and private businesses, soliciting input regarding guidelines for proposed ocean leasing legislation. Approximately 100 responses were received. In addition, numerous interviews of local interests were conducted.

To augment the correspondence and interviews, extensive research was conducted into the legal history, case law development, statutes, constitutional provisions, and unique Hawaii legal requirements.

A multi-disciplinary committee with special expertise and knowledge in this area was asked by the Department of Planning and Economic Development to review, analyze and comment on the draft material. Fifteen committee members accepted appointment for this review and advisory task. Their comments and critiques of the final draft of this report have been included in Appendix B herein. At the request of the Advisory Committee, a section on policy issues was prepared which focuses on the planner's viewpoint of alternatives regarding ocean leasing.

In order to apprise the reader of the technological aspects of ocean leasing, the Department of Planning and Economic Development and the Department of Land and Natural Resources prepared a "Technology Assessment of the State of the Art of Mariculture, Ocean Thermal Energy Conversion, and Fish Aggregation Buoys." A condensation of this analysis is found in Section II of this report, and a series of detailed supplements are available for the reader upon request from the Aquaculture Development Program of the Department of Planning and Economic Development. The supplements address the following subjects: Mariculture, Ocean Thermal Energy Conversion and Related Devices, and Fish Aggregation Buoys.

After research and analysis, the consultant team made a series of recommendations to the State of Hawaii and, by analogy, to any other states desiring to develop their marine waters. These recommendations are contained in Section III herein, "Commercial Development."

In addition, legislative proposals were developed for use by Hawaii's legislators and other legislators to provide a framework for full dialogue in discussing an ocean leasing legislative program. The proposed legislative program is annotated to sections of the report for further analysis and reasoning.

It is my opinion that there will be commercial development of the marine waters of the State of Hawaii. Orderly, systematic, and positive development of the ocean requires understanding, analysis and discussion by as wide a scope of interested persons as possible. It is my hope that this report will provide the catalyst for this discussion and orderly development of the marine waters.

Gerald S. Clay, Esq.
Honolulu, Hawaii

January 1, 1981

ACKNOWLEDGMENTS

This report on Ocean Leasing for Hawaii is the product of contributions by numerous individuals who provided invaluable assistance and tireless effort. The following individuals are acknowledged for their special contributions to this report:

Ronald Turner is a student at the Davis School of Law, University of California. He has co-authored a study on coastal zone management educational programs.

Sherry Broder is a practicing attorney in Honolulu, Hawaii. Her background includes Deputy Chief Attorney for the Hawaii State Constitutional Convention, 1978, and Attorney/Consultant on various Sea Grant projects.

Don S. Kitaoka is a student at the University of Hawaii School of Law.

Gregory L. Rhodes is a professor at the College of Education, University of Hawaii. He has co-authored a study on coastal zone management educational programs. Mr. Rhodes is principally responsible for the Policy Issues Section of this report.

Dennis K. Yamase is a student at the University of Hawaii School of Law.

John S. Corbin and William A. Brewer of the Department of Planning and Economic Development's Aquaculture Development Program provided invaluable assistance to the authors as managers of the project. Their extensive knowledge of ocean technology, environmental science, and governmental processes greatly assisted the work.

Kent Keith is with the Office of the Director, Department of Planning and Economic Development. His knowledge of the law, of technology, and especially of the commercialization of OTEC, was instructive and exceptionally meaningful.

Numerous hours of work were given voluntarily by an Advisory Committee of 15 individuals from the Hawaii community. They met with the authors to give their input regarding the draft during its preparation. Further, certain members of the committee provided their analyses, comments, and viewpoints concerning this report. (These commentaries are found in Appendix B herein.) Members of the Advisory Committee are:

John S. Corbin
State of Hawaii
Department of Planning and Economic Development

Dr. John Craven
University of Hawaii
Marine Programs/Marine Affairs Coordinator

James Detor
Land Management Administrator
State of Hawaii
Department of Land and Natural Resources

Kenji Ego
Director, Fish and Game Division
State of Hawaii
Department of Land and Natural Resources

Roger Evans
Conservation District Planner
State of Hawaii
Department of Land and Natural Resources

Kent Keith
Coordinator, Office of the Director
State of Hawaii
Department of Planning and Economic Development

Kenneth Kupchak
Attorney at Law

George Lindsey
Attorney at Law

Dr. James Maragos
Chief, Environmental Resources Section
U.S. Army Corps of Engineers

James McCormick
Deputy Director
Water Transportation Facilities Division
State of Hawaii
Department of Transportation

Frank McHale
Project Manager-OTEC
Hawaiian Dredging and Construction Company
The Dillingham Corporation

Richard Poirier
Chief, Long-Range Plans Branch
Planning Division
State of Hawaii
Department of Planning and Economic Development

Taylor (Tap) Pryor
President
Systemculture, Inc.

Guy Rothwell
Senior Engineer
Oceanic Institute

Justin Rutka
Fisheries Advisor

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SECTION

1

A. STATE-OF-THE-ART - TECHNOLOGY ASSESSMENTS

The state-of-the-art of three fixed-location technologies which are or may be deployed in Hawaii's ocean waters--mariculture, OTEC, and fish aggregation devices--are examined.

Systems used in nearshore and open ocean mariculture activities vary in construction and operation with the species under culture and the need for protected waters. Three general types of systems can be identified: (1) modified natural environments, (2) surface systems and (3) submerged systems.

Several preliminary statements concerning the potential for near-term future development of nearshore and open ocean commercial mariculture in Hawaii can be made. Few Hawaii species appear to have reached a level of biotechnology and economic feasibility for commercialization; therefore, near-term development may require importation of non-indigenous species which are commercially cultured elsewhere, with attendant ecological risks or increased levels of research on local organisms. Many of the species being commercially cultured around the world are temperate or cold water species (e.g., salmon, lobster, abalone, and various seaweeds) whose adaptability to ambient Hawaii water temperature regimes (OTEC cold water aside) is not well known. Others of the world's commercially cultured species (molluscs and seaweeds) require fertile natural environments for successful production and environmental conditions of this nature which are not prevalent in Hawaii waters. All the mariculture systems discussed in this Report are potentially applicable to Hawaii conditions, though materials may differ and those surface systems requiring sheltered waters may be limited by site availability. An assessment of potential nearshore and open ocean mariculture sites is needed to maximize development potential. Finally, Hawaii has a growing complement of aquaculture researchers and facilities on which a tropical mariculture research program could be built and which would benefit the many oceanic countries of the Asian Pacific Basin.

Ocean Thermal Energy Conversion (OTEC) is a particularly promising energy resource for Hawaii. This resource relies upon the temperature differential between warm surface and cold deep waters. In the OTEC system, warm surface water and deep ocean water are circulated through heat exchangers which contain a low boiling-point working fluid such as ammonia. The working fluid, which is evaporated by the warm water, powers a turbine, and is then condensed by the cold water. OTEC plants could not only provide a source of continuous 24-hour baseload power, but most important, no major technological breakthroughs appear necessary for commercialization. Since OTEC plants are floating systems, they offer considerable flexibility in utility planning for meeting future energy needs of the Neighbor Islands and would not involve any significant foreclosure of coastal land-use options.

OTEC platforms deployed in tropical and subtropical seas offer a means of tapping the cold, deep, nutrient-rich waters below the unproductive surface layer and, through artificial upwelling, making these nutrients available for controlled plant and animal culture systems. In addition to the deepwater nutrients (e.g., nitrogen and phosphorus), the combination of deep cold water and warm surface waters (available as a by-product of the OTEC process) offers the opportunity for producing a broad range of water temperatures and enormous water volumes for the growth of a diverse variety of commercially valuable organisms.

A fish aggregation device is a floating or submerged structure deployed in the ocean to attract, congregate and hold fishes and other free-swimming aquatic organisms for harvest by commercial and recreational fishermen. Pacific Islands, like the Hawaiian Islands, generally have a relatively narrow band of shallow water areas of which a large portion are flat and devoid of adequate relief for supporting fish populations. Moreover, surrounding deep waters are relatively nutrient poor and low in productivity. Hence fish aggregation devices have been successful in enhancing fishing opportunities.

B. COMMERCIAL DEVELOPMENT OF OCEAN RESOURCES: CONCERNS, NEEDS AND RECOMMENDATIONS

Mariculture and OTEC are potential new uses of offshore waters in the State of Hawaii. Since the ocean waters of Hawaii are nutrient poor, the nutrient rich cold-water ("thermal") plume which will be the effluent waters from OTEC plants may be the necessary component to allow commercial development of mariculture in Hawaii. And of course commercial development of OTEC would enable Hawaii to further its goal of energy self-sufficiency. While government has taken the initiative in the present research and development phase, actual commercialization of these new uses, if it occurs at all, will be carried out by the private sector. It is thus necessary to address at the outset how the concerns and needs of those who might seek private use of ocean space to establish mariculture or OTEC operations can be met, recognizing that these private needs must to some extent conflict with traditional public uses of offshore waters.

The foremost concern and need of the private ocean entrepreneur is the establishment and protection of property rights. This particularly pertains to mariculture activities. The common law rule that fish become property only when caught would have to be modified by statute to recognize the new kind of possession a mariculturist obtains.

A legal distinction must be made between feral (wild) and domesticated (husbanded) marine plants and animals. Plant or animal species "bred and fed" by a mariculturist within a leased ocean area can be declared private property without violating federal, state or common law injunctions against the creation of vested rights in navigable waters. Cultured marine species can be recognized as the private property of a mariculturist, however, only so long as confined within a privately leased area.

Fish aggregation buoys, unless part of a true mariculture system, do not meet the legal tests which justify restriction of

public access. It is therefore recommended that fish aggregation devices be excluded from ocean leasing legislation at this time.

However such devices will need some type of permission to be in state marine waters.

A declaration of property rights necessarily obligates the State to take appropriate measures to protect those rights. Restrictions in varying degrees upon public access to mariculture and OTEC sites will be necessary. The private ocean user, however, will have to afford the public reasonable transit and use prerogatives.

Criminal penalties for unauthorized taking ("poaching") of cultured species, and for willful interference or damage to mariculture or OTEC operations must be included in ocean leasing legislation. Criminal penalties have been enacted in the mariculture laws of other states. Although enforcement of such protections at sea will be difficult, deputizing of private citizens as game wardens by the State Department of Land and Natural Resources and utilization of Department personnel and enforcement officers could provide aids to enforcement.

Since the cold-water ("thermal") plume generated as a by-product of an OTEC facility is predicted to be a valuable resource, it is important to determine who has the property rights. For reasons of production efficiency and of law, any assignment of user-privileges to this resource should be made the prerogative of the OTEC operator, or at least subject to the operator's approval.

A second fundamental concern and need which ocean leasing legislation must address is security of tenure. The mariculturist or OTEC operator will have to spend considerable time and money obtaining permission to use a specific ocean location which is suitable to his purposes. Given the fact of fixed-location and the time-lag between activity initiation and likely commercial viability, ocean leasing legislation must explicitly authorize a state agency

to lease portions of the ocean surface and the vertical water column, and for periods long enough to allow private entrepreneurs to realize the benefits of their investment and work. As with property rights for mariculturists and OTEC operators, ocean leases would not create illegal vested rights to ocean space or, if properly planned, violate the public trust which applies to navigable waters.

It is recommended that there be three types of leases: (1) Commercial leases would be granted for activities in state marine waters designed for profit; (2) Administrative leases would also be granted for activities designed for profit but only where the lease anticipates gross revenues of no more than \$150,000 in a fiscal year and requires no more than one acre of state marine waters; (3) Experimental leases would be granted for those activities designed for research, scientific endeavors, or educational purposes. The State might be involved in partnership with the private sector in this type of lease since the State has expressed interest in all these activities. The State would impose the most rigorous requirements on the application for a commercial lease and would put the lease out for public auction; however, the lessee would probably be awarded a longer term lease of up to 20 years (25 years in the case of an OTEC lease). For both administrative and experimental leases, the permit process might be less demanding than for the commercial lease. There may even be circumstances when these leases need not be offered at public auction.

In order to allow the small-scale entrepreneur to engage in mariculture, it would be advisable for the State to develop in partnership with others mariculture parks which would also allow entrepreneurs to pool their resources, especially for purchase of equipment and capital investment, and the State to assist them in various ways. Presumably mariculture parks would enable those who might not qualify for traditional financing or who lack sufficient capital to get started in mariculture operations. The State has begun an analogous management scheme in the form of agricultural parks.

It is recommended that the maximum length of an ocean lease be conditioned upon the nature of the activity--whether experimental or commercial--and upon the level of capitalization. An OTEC lease should be long-term with a maximum period of 25 years which conforms with the term under federal legislation. A small-scale seaweed culturing lease might be annually renewable. Experimental leases should run no longer than five years, with one option to renew for an additional ten-year period. Commercial leases should run no longer than 20 years, but absent any finding by the State that the operation has become environmentally unacceptable or that the public interest requires the area leased to be used for other purposes, the commercial mariculturist should have no restriction upon the option to renew. A commercial lease should be renegotiated at the time of each renewal to assure the State a fair return.

State law now requires all Conservation District leases to be granted by public auction. This creates uncertainties in tenure which may be alleviated by amending H.R.S. 171-58 to include mariculture and OTEC as uses for which leases may be granted without public auction, or by providing in new ocean leasing legislation a "sunken cost" clause. Such a clause would require that an entrepreneur who is out-bid at public auction be reimbursed by the higher bidder for expenses incurred in obtaining needed state permits prior to the auction. Such permits would then automatically pass to the high bidder.

A third need which should be addressed by the Legislature is appropriate government regulation. In many states, government over-regulation is a serious impediment to the successful development of new water-related industries. In Hawaii, a successful effort has been made to streamline the regulatory process with regard to aquaculture. Aquaculturists have responded to the favorable institutional climate which has been created, with the result that continuing growth is forecasted for the industry, in contrast to the situation in some other states.

Authority to approve Conservation District uses presently rests with the State Board of Land and Natural Resources (BLNR). It is recommended that the Legislature explicitly delegate to BLNR the responsibility to evaluate and approve or deny applications for private use of ocean space, applying the existing Conservation District Use Permit (CDUP) procedure. Guidelines for such approval or denial must also be adopted by the Legislature pursuant to Article XI, Section 6, of the State Constitution. These guidelines should be cast in positive terms and should stress realistic environmental goals. Judgment of environmental impact should center upon an "acceptable-unacceptable" determination, reached after consideration of public gains and losses from a comprehensive viewpoint. It is important that responsible, rather than "zero-risk" safeguards of the public interest be pursued. Mariculture activities are necessarily intensive; there will be significant environmental effect within and near any areas in which commercial culturing activities are being conducted. An unqualified "no significant adverse effect" guideline would effectively stop all development.

The State of Hawaii can continue the effort to expedite the regulatory process by designating a liaison officer to coordinate state/federal permit approvals. The State has recognized this need with regard to aquaculture by establishing the highly successful Aquaculture Development Program and by adopting a joint hearing and approval process for the CDUP and the State Department of Transportation's "Permit for Work within Shores and Shore Waters." An expedited process can be of the most benefit to the small entrepreneur who cannot afford the legal and technical consultants that regulatory paperwork and permits can require.

The interface between state and federal regulations needs attention. The present situation with regard to the importation of non-indigenous species needs to be reviewed to ensure that native species are adequately protected and to allow reasonable and safe introductions for maricultural purposes.

One further aspect of government regulation which has great practical significance is the EA/EIS requirement. The question here is whether all costs of environmental research should be borne by the permit applicant. Government agencies should bear some responsibility to make available to private entrepreneurs information and expertise. A liaison officer could serve to expedite the flow of information and services. There is also the concern to allow the small-scale operator into the field, particularly in the area of seaweed cultivation. Provision should be made to allow agency discretion to conduct environmental surveys and to assess an appropriate portion of the costs of such services upon the permit applicant.

Two further problems presently place a heavy restraint on the commercial development of mariculture: (1) the mariculturist's limited access to capital, and (2) high insurance premiums. Both these problems stem from the high-risk "pioneering" nature of the activity. Without supportive governmental action in this area, a mariculture industry is unlikely to develop. There is clear justification for government encouragement of innovative industries, which play a key role in economic growth. Mariculture operations are most likely to be pioneered by entrepreneurs with minimum investments in the neighborhood of \$250,000. The passage of the National Aquaculture Act of 1980 demonstrates federal recognition of the financing need. However, federal programs still do not directly address the capital needs of the high-risk mariculture venture. The State should address these needs, by providing loans to innovative small to mid-sized companies.

The State of Hawaii has initiated its own Aquaculture Loan Program. The statutory definition of aquaculture presently does not include mariculture operations, however. This definition should be amended to qualify State-licensed mariculture operations for participation in this program.

It is also recommended that the Legislature consider enacting a State-backed insurance program to mitigate the casualty risks faced by the mariculturists. A State-supported insurance or insurance subsidy program, if adopted, should be implemented as a temporary measure only, to aid the first generation of mariculturists.

A final factor which will significantly affect the calculus of commercial development is the negotiation of actual lease fees between the mariculturist and the State. The impact of rents on overhead costs could make the difference between viability and early failure for a mariculturist. It is recommended that base rents for ocean leases initially be set at low or nominal levels, with percentage fees to be paid upon gross receipts or productivity. Percentage fees might increase if an enterprise matures economically. This approach would fairly distribute the risks and the potential gains for both the entrepreneur and the State.

Another approach might be for the State to grant an initial start-up lease without charging fees. Instead the State could require the mariculturist to allow the State unlimited access to the operation and the technical information relied upon in the operation for the purpose of State research. This arrangement would furnish the State with a research facility at no cost to the taxpayer and at the same time assist the mariculturist in reducing his initial costs.

If the private sector is to be presented an opportunity to apply its ingenuity and perseverance to the difficult task of commercial development of offshore resources, the legal, regulatory and financial framework in which this development is to occur must be created. Experience will point out mistakes in detail. Balanced against such risks of mistake is the prospect that ocean leasing may bring far-reaching benefits to the private sector, the public and ultimately the protein-poor and energy-poor populations of the world.

C. STATE MANAGEMENT OF OFFSHORE RESOURCES: POLICY ISSUES

The State of Hawaii is committed to the general goal of development of marine resources. Past policy statements, however, while specifying various goals and objectives, do not establish a resource allocation system through which development may occur in an orderly, rational manner.

Since extensive commercial development of offshore areas is still some years away at best, the State presently has an excellent opportunity to review existing policies and to evaluate the strengths and weaknesses of new policy options. The formulation of an "ocean management plan," a process now underway under the general direction of the Hawaii Coastal Zone Management Program, should result in an integrated management program for the State. The study herein only surveys broad questions of management approach to commercial development of offshore resources.

Extensive development of fixed-location ocean activities will create problems whose individual definition will vary according to the present or potential interests one has in the use of ocean space. The responses of ocean users to commercial development of offshore waters will be complicated by several factors, including (1) multiple impacts of new uses (some impacts will be seen as "good," some as "bad"); (2) proximity to site (those far from an activity site will judge impacts differently than those near the site); (3) multiple group loyalties (most people do not have one overwhelming user-group association; their definition of any "problem" will change as they consider their different concerns as ocean user, taxpayer, employee, etc.); and (4) unanticipated outcomes (these produce impacts which may alter initial perspectives).

The State has already established through the Hawaii Coastal Zone Management Program, the State Plan and the Conservation District Use Permit procedure employed by the Department of Land and Natural Resources which presents a policy framework which addresses potential problems such as restrictions upon public access,

interference with existing uses, and aesthetic enjoyment of the shoreline. Any future policies or laws enacted by the State regarding the use of offshore resources will have to be compatible with these existing policies.

There are potential problems raised by the prospect of offshore commercial development, however, which present policy and law do not address: (1) fixed-location ocean activities require the adoption of a new offshore legal regime to grant private property rights within a traditionally public domain resource area; and (2) development of offshore waters for private enterprise may yield significant direct benefits to only a small segment of the population.

The policy goals and objectives chosen to guide the implementation of a future offshore development scheme must address these latter problems as well as be compatible with existing policies. Offshore development thus raises two policy questions: (1) Should the amount and types of activities allowed in offshore waters be limited? How? Upon what criteria? and (2) Who should be encouraged to participate in the development of these new activities?

The projected benefits of both OTEC and mariculture activities are many, but this does not necessarily prove that the State should embark on a policy of maximum development. The carrying capacity of the ocean resource has yet to be determined for either activity, and further, present policy mandates a multiple-use approach to the ocean.

Regarding the desired mix of commercial operators, present State policy toward aquaculture development favors a diversity of participants. Both large-scale and small-scale, in-state and out-of-state companies are expanding the aquaculture industry's base. A similar mix can be encouraged by appropriate economic policies in mariculture development, although it appears unlikely that large corporations will be taking the lead in such development.

Open sea mariculture will simply remain too risky for the next decade or longer to interest very large-scale operators. Innovative entrepreneurs will pioneer the industry, if it develops at all.

OTEC development, in contrast, because of its requirements of scale, advanced technology and high capitalization will necessarily be limited to a small range of participants, if not to a single consortium.

OTEC policy options center upon favoring local or out-of-state participants. A policy favoring local companies might bring more direct economic benefits to the people of Hawaii, but OTEC commercialization is likely to proceed faster if a policy favoring out-of-state contractors is pursued. At present, both local and mainland companies are involved in OTEC research and development.

The State may consider three allocation models for managing offshore resource development and use: (1) public research, development and production of offshore resources (state monopoly); (2) private ownership and production; and (3) mixed public/private ownership and development.

The first model offers advantages of complete control, less conflicts over siting, the likelihood of increased environmental protection, and total revenue accrual to the State. Disincentives include philosophical objections to State ownership of commercial enterprises, objections of unfair competition with private suppliers, and objections to the financial burden the State would have to carry in developing and establishing these admittedly high-risk enterprises. Cut-backs in other State programs might be necessary to finance offshore commercial monopolies. Contrariwise, if such cut-backs are politically unacceptable, offshore resource development would languish.

The second model appears neither practical nor legal. The State may not sell "ocean space." Such alienation is prohibited

under public trust law. Moreover, the State has already committed itself to assistance in the research and development of OTEC and mariculture. A modified scenario which might pass minimum tests of legality and utility would be for the State to grant long-term leases, hold back few offshore areas for preservation, relax environmental quality controls, and restrict State-supported research and development. Such an approach might bring considerable economic benefit to the State, but this advantage would be negated by the disincentives that (1) development would be dominated by a few very large corporations; (2) the environmental costs would be unacceptably high; (3) user conflicts would be endemic; and (4) public opposition would be certain. It is difficult to see any real viability in even this modified scenario. It does not meet present policy goals, and it is politically untenable, given its conflicts with powerful interest groups such as the tourism industry, local commercial and sport fishermen, and recreational ocean users.

The last model, a mixed public/private management scheme, is familiar as the policy framework presently used in making most land-use decisions. Applying this model to ocean management, the State would retain ownership of existing ocean resources, but would grant user privileges, limited property rights, and leases of varying lengths to private entrepreneurs. Appropriate conditions could be set upon each use suitable to the type of activity and the public's continued rights. Preferential treatment to encourage a diversity of industry participants could be exercised.

The public/private model also offers flexibility in utilizing some type of water zoning plan to minimize user conflicts and "piecemeal" development. In the research and development area, government initiative in stimulating and supporting the first phases of technological advance, combined with the existence of an appropriate commercialization framework, has proven highly successful in diverse industries. Land-based aquaculture in Hawaii is but one relevant example.

The public/private model thus provides the greatest continuity with present policy goals, offers substantial flexibility in responding to new needs or problems, and carries the strongest likelihood of general public support.

D. STATE AUTHORITY OVER OFFSHORE RESOURCES: THE LEGAL ISSUES

In developing a state legislative scheme for the regulation and control of new commercial activities in State marine waters, it is necessary first to identify what powers the State has over the area, and secondly what the limitations are to the exercise of such powers. The State possesses two kinds of state authority: (1) proprietary or "ownership" rights, and (2) police powers.

The long-standing proprietary claims of coastal states in the marginal sea had been accepted by the federal government until the 1930's. In 1947, the U.S. Supreme Court held in U.S. v. California that the Federal Government had full dominion over ocean waters, including the oil and minerals which reposed in the lands beneath. Congress in turn ceded back to the states all federal proprietary interests in the marginal sea by the passage in 1953 of the Submerged Lands Act (SLA). This Act explicitly granted to the States "the right and power to manage, administer, lease, develop, and use the said [submerged] lands and natural resources all in accordance with applicable State law."

The SLA grants to states the power to lease areas of the seabed; however, the SLA makes no mention of the water column or water surface. Mariculture and other fixed-location ocean activities require some degree of exclusive use of ocean space in the water column. These new ocean uses were not contemplated at the time the SLA was enacted. Yet an assertion of State ownership rights to the water column, as a basis for State leasing of such, would be well grounded. The following considerations are persuasive: (1) The SLA's grant of authority to the states is very broad; (2) The Supreme Court has consistently allied ownership of submerged lands with the superjacent waters, and vice-versa; (3) The SLA specifically retained certain federal prerogatives but did not reserve to the Federal Government ownership rights to the water column; (4) The legal definition of land includes everything above and below it (exceptions to this may limit but do not negate the

principle); and (5) Many states have exercised leasing powers over the water column either explicitly or effectively without successful challenge.

In addition to proprietary rights, a state also possesses broad police powers to regulate, restrict or promote activities within its boundaries in the interest of public health, safety and welfare. Valid exercises of state police powers in the marginal sea include: (1) Regulation of navigation--a state may remove or authorize erection of structures in ocean waters; (2) Land and water use control--through zoning and planning, a state may impose areawide restrictions on permissible land and water uses. (3) Environmental protection--a state may validly impose reasonable pollution regulations and controls. (4) Conservation and/or development of natural resources--a state may take measures to prevent depletion of a natural resource, or to encourage the development of such a resource. (5) Aesthetic controls--although a state regulation based solely on aesthetic considerations is of questionable validity, aesthetic considerations can at least be taken into account in state legislation. (6) Preservation and protection of historic sites.

The orderly use and development of Hawaii's coastal resources depends upon the proper exercise of the State's proprietary and police powers. As a function of its proprietary powers, Hawaii can establish a mechanism for the leasing of ocean space to accommodate new ocean activities such as mariculture, OTEC and other fixed-location activities. As a function of its police powers, Hawaii can regulate or prohibit activities in the marginal sea in the interest of the public's welfare. Through the exercise of both its proprietary and police powers, Hawaii can allocate ocean space in a manner that assures the highest economic or social benefits.

Several federal statutes have recently been enacted which increase the scope of State authority to regulate offshore activities. The federal Water Pollution Control Act (FWPCA), as amended by the

Clear Water Act of 1977, places basic responsibility to control water quality with the states. The Fisheries Conservation and Management Act (FCMA) of 1976 extends to the states a limited role in the management of the 197-mile fishery conservation zone beyond State marine waters. The Coastal Zone Management Act (CZMA) of 1972 grants states which have a federally approved CZM program (as does Hawaii) an effective veto power over the issuance of federal permits, licenses, or federal assistance grants for activities occurring within a state's defined coastal zone.

The CZMA was amended in 1976 to require that any new activities proposed for the outer continental shelf be consistent with a state's CZM program, if that activity may produce effects within the state's coastal zone. The Deepwater Ports Act of 1974 allows an adjacent coastal state to veto the issuance of a deepwater port license. The recently enacted Ocean Thermal Energy Conversion Act of 1980 likewise requires that the governor of an adjacent coastal state shall approve any OTEC project before a federal license will be issued.

Coastal states may also influence the conduct of federal activities through the National Environmental Policy Act (NEPA). The State may significantly delay any ocean project which it opposes by judicially challenging the project's compliance with NEPA. The threat of delay itself can provide political leverage to the State.

The exercise of a coastal state's proprietary and police powers is, however, subject to various legal constraints. One such constraint is the exercise of paramount federal power to control ocean activities which affect federal interests. The powers reserved to the Federal Government by the U.S. Constitution include control over national defense, international affairs, and interstate and foreign commerce. The Commerce Clause of the U.S. Constitution provides the Federal Government with broad powers to regulate and control navigation and the production of water power. The Commerce Clause permits the Federal Government to also regulate

ocean activities on the bases of conservation and ecological protection of navigable waters.

Several federal statutes give the U.S. Army Corps of Engineers broad jurisdiction over activities occurring in navigable waters. The National Environmental Policy Act requires that environmental impact statements be filed for all major federal actions significantly affecting the environment. The Clean Water Act establishes water quality guidelines. Other federal laws have been enacted to conserve and manage ocean wildlife resources.

States cannot enact legislation which interferes with or bypasses federal statutory requirements. If a state law conflicts with a federal law, the federal law prevails. Also, where federal legislation in a particular field is intended to be exclusive, state legislation in the field is invalid. The granting of a federal license, such as the licensing of a vessel, usually confers the right to perform the licensed activity. However, states are allowed to impose upon federal licensees reasonable and evenhanded conservation and environmental protection measures.

Any state ocean leasing scheme must conform to federal statutory requirements. Therefore, any scheme adopted must be coordinated with federal regulatory procedures.

The Commerce Clause acts as a bar to any state regulation that unduly burdens interstate commerce. In establishing a statutory scheme for the development of offshore resources, the State cannot adopt any regulations which impede the flow of goods in commerce. A state ocean leasing scheme cannot discriminate against out-of-state businesses or shield local businesses from out-of-state competition. The State cannot favor consumption of local products by restricting the importation of out-of-state products. Nor can the State restrict commercial products resulting from offshore development to consumption and use only within the state in order to satisfy state needs. Finally the State may not impose

undue restrictions on the vehicles or facilities necessary for the transportation of goods.

The Privileges and Immunities Clause of the U.S. Constitution acts as another constraint upon the exercise of state authority. Any state statute which (1) discriminates against non-residents, and which (2) in doing so affects a fundamental right, is unconstitutional. A discriminatory statute is valid only where activities of non-residents can be proven to constitute a peculiar source of evil, and where there is a reasonable relationship between the danger represented by non-residents and the discrimination practiced upon them. Under these tests, the State cannot attempt to allocate or conserve its offshore resources by reserving to its own citizens alone the right to conduct commercial ocean activities. The State cannot deny an ocean lease for commercial purposes to any applicant on the basis of non-residency.

The Equal Protection Clause of the U.S. Constitution similarly requires that any legislative discrimination between classes of persons must bear a rational relationship to a legitimate state interest or purpose. However, if the discriminatory legislation involves a "suspect" classification or affects a "fundamental" right, such legislation is subjected to a higher test and is only valid if it can be proven necessary to promote a compelling state interest. Thus a State ocean resource allocation or regulatory scheme may not discriminate on the basis of race or alien status. Nor may such a scheme penalize the exercise of a fundamental right. For instance, an ocean leasing scheme which imposes a durational residency requirement in order to qualify an applicant for a lease would be challengeable as placing a penalty upon the exercise of the right to travel.

Proprietary rights and police powers may also be limited by the common law, state statutes, and/or the State Constitution. The major constraint upon State allocation of public resources is the public trust doctrine. Hawaii's offshore lands and waters are

held by the State in trust for its citizens. Any legislative scheme which allocates and restricts the use of ocean space must recognize the general right of the public to use and enjoy the State's ocean resources.

Under the public trust doctrine, courts generally employ a cost-benefit analysis which balances the conflicting private, government and public interests. The State, as trustee, cannot allocate its trust resources in a manner that unreasonably interferes with existing public uses. Therefore, any conveyance of public resources in the marginal sea must be in support of activities which are necessarily water-related, must provide a net benefit to the public, and must not significantly reduce the public's use and enjoyment of the whole of the trust resource.

The public trust doctrine recognizes that the State Legislature has the prerogative to establish an ocean leasing program, so long as the Legislature publicly debates the policy issues involved and finds that such a program would serve the public interest.

The public trust doctrine requires that the State Legislature make explicit the public policy governing priorities in the use of marine resources within the State, and that thorough planning precede any reallocation of resources in order to achieve the best allocation of those resources.

In consideration of the public trust doctrine, likely opposition from competing ocean users and simple good planning, any ocean leasing program ought to contain clearly stated self-limitations, such as a designation of suitable and unsuitable zones for leasing, or some other planned development formula which gives assurance of the program's bounds. The Legislature might direct the Department of Land and Natural Resources to develop a site assessment which would specify leasable and non-leasable areas or zones. The Legislature should itself ratify such a plan, and should provide for its periodic review.

The public trust doctrine requires that public access to ocean resources be protected to the maximum extent practicable. Provision should be made to guarantee that leases for mariculture or OTEC activities be no more extensive, and the degree of exclusiveness granted be no broader, than is required by the nature of the private commercial operation.

The public trust doctrine requires that administrative guidelines be carefully drawn by the Legislature, and be rigorously followed by the state agency with delegated authority to lease ocean areas. Administrative procedures must protect public rights and ensure that any specific allocation of ocean resources be made in the public interest.

The Hawaii State Constitution contains explicit provisions which protect public interests in the State's marine resources. The State Constitution is not, however, a major impediment to the establishment of an ocean leasing program. Article XI, Section 6, of the Hawaii Constitution, as amended in 1978, specifically excepts fish ponds, artificial enclosures and state-licensed mariculture operations from those fisheries in seawaters which shall be free to the public. Article XI, Section 6, also mandates that the Legislature sets guidelines for the licensing of mariculture activities in state waters, "which shall protect the public's use and enjoyment of the reefs." The report of the Constitutional Convention Committee on Environmental, Agriculture, Conservation and Land concerning Article XI suggests that ocean leasing for mariculture activities in Hawaii would be a practical application of public trust purposes from the viewpoint of optimal resource utilization. Article XI, Section 1, provides a general statement regarding the conservation and development of State natural resources. It provides that the State "shall promote the development and utilization of these resources in a manner consistent with their conservation and in furtherance of the self-sufficiency of the State."

In Hawaii, there is a unique system of exclusive fishing rights, known as "konohiki fisheries," which may act as a restriction upon the state's ability to lease marine waters. Konohiki fishing rights are private rights derived from ancient Hawaiian custom and usage and are presently recognized by statute. In ancient Hawaii the konohikis were the landlords of the various ahupua'a which constituted the basic land division at the time. Each ahupua'a was a pie-shaped strip of land running from the mountain tops to the sea. The konohiki had exclusive fishing rights in the ocean waters adjacent to the ahupua'a.

When Hawaii was annexed by the United States in 1900, the Hawaii Organic Act directly attacked the legal basis for the konohiki fisheries. Finding the concept of such exclusive fisheries repugnant to public trust principles, Congress in Section 95 of the Act repealed all laws conferring exclusive fishing rights, "subject, however, to vested rights." Section 96 required any claimant of such rights to register his claim through a petition filed in the circuit court within two years of the Act. The Territory was then to condemn and purchase each adjudicated fishery. The intent of Congress was to eliminate private fishing rights. All fisheries not registered in accordance with the Act became open to the public. On the other hand, the registration of konohiki fisheries legally validated the private vested rights of the konohikis. Vested konohiki rights therefore continue to be recognized and regulated in state statutes. Only 101 fisheries were registered, and many of these were subsequently condemned by the State or by the federal government. By one count, at present only 42 konohiki fisheries remain, the majority of them located around Oahu.

In addition to konohiki rights, state law recognizes tenants' rights. Ahupua'a residents, or hoa'aina, also had fishing privileges in the adjacent ocean waters. The konohiki held the private fisheries for the equal use of themselves and of their tenants, to

the exclusion of all others. The Hawaii Supreme Court originally defined "tenants" as every person lawfully occupying any part of an ahupua'a. However, the court subsequently held that those persons who became tenants after the passage of the Organic Act did not have any "vested" rights within the meaning of the Act and therefore the repealing clause was operative as against them. In other words, since the Organic Act repealed all laws conferring exclusive fishing rights, only those rights which were vested at the time of the Act could be recognized. No fishing rights could be conferred upon persons becoming tenants after the passage of the Organic Act. Therefore, under state case law, very few tenant claims in konohiki fisheries exist today.

A conflict exists, however, between state court and federal court rulings. A Federal District Court held that by statute, the konohiki held the private fisheries for themselves and in trust on behalf of the tenants. Therefore, any present tenant of ahupua'a land adjacent to a registered konohiki fishery holds the same vested right which any tenant of 1900 held.

The Hawaii State Constitution, as amended in 1978, recognizes the continuing validity of ahupua'a tenants' rights. Article XII, Section 7, provides that the "State reaffirms and shall protect all rights, customarily and traditionally exercised . . . and possessed by ahupua'a tenants who are descendants of native Hawaiians who inhabited the Hawaiian Islands prior to 1778." Under the Hawaii State Constitution, hoa'aina rights pass by descent, not by statute or by trust. Therefore, present ahupua'a tenants who can claim Hawaiian descent may possess hoa'aina rights.

The extent to which konohiki and hoa'aina rights limit the State from leasing ocean space is not clear. Certainly, the State may not lease any portion of the ocean lying within a konohiki fishery for any fishing activity. Since konohiki rights include only exclusive fishing rights, however, non-fishing uses are not in conflict with konohiki rights, if the non-fishing use does not substantially interfere with the ability of the konohiki, his agents, or

his tenants to conduct fishing activities. Whether a mariculture activity could rely on a state lease to operate within a konohiki fishery would then depend upon legislative and judicial declarations that mariculture is or is not "fishing." If the Legislature desires to prohibit state leases for mariculture activities within private konohiki fisheries, mariculture should be explicitly defined in any ocean leasing legislation as a fishery; or alternatively, a provision of the legislation should explicitly state that leases may not be granted by the state for mariculture operations (and other ocean uses requiring ocean leases, if that is also desired) within private fisheries. If the Legislature desires to not so restrict the State's options, mariculture should be distinguished from "fishing," and specific provision made to allow mariculture or other non-fishing leases within private fishery bounds, subject to the preservation of all konohiki and hoa'aina fishing rights.

The State is not limited to the alternatives of either prohibiting or allowing ocean leasing within konohiki areas. The State could (1) complete the condemnation program intended in the Hawaii Organic Act of 1900, or (2) attempt to open for public use the remaining konohiki fisheries which have not been policed and used for many years by their owners, on the basis of implied dedication or adverse possession by the public. With regard to the first alternative, condemnation of the remaining konohikis would be opportune at this time. The success of the second alternative is in no way assured, but such an approach does bear consideration.

Riparian or littoral owners may have certain rights incident to their location next to a body of water. Riparian rights are common law rights as modified by state statute.

One riparian right applicable to ocean waters which seems to be almost universally recognized is the right of access to the water. A riparian owner may also be entitled to the reasonable use of the waters adjacent to his land for swimming, bathing, fishing, etc. The right of a riparian owner to an unobstructed view

of or over adjacent waters has been recognized in a few cases. A few jurisdictions also recognize a common law right to build a pier or wharf out to the point of navigability.

If any action of the State substantially impairs a recognized riparian right, just compensation must be paid to the riparian owner. However, if the impairment of riparian rights is not substantiated or where the State clearly is acting in the public interest, compensation may not be required.

In Hawaii, neither the State Legislature nor the Hawaii courts have addressed the issue of ocean littoral rights. Whether Hawaii would recognize any of the aforementioned riparian rights remains to be seen.

In sum, the State may lease ocean waters. As trustee of the State's ocean resources, the Legislature may take virtually any action it deems necessary to protect the public trust or to further its purposes. A legislative determination that a particular allocation of a trust resource is in the public interest is presumptively valid. It appears unlikely that the Hawaii courts would invalidate a legislatively enacted ocean leasing program containing explicit public interest protections.

SECTION

2

II. STATE-OF-THE-ART - TECHNOLOGY ASSESSMENTS: AN OVERVIEW

This Section on Technology Assessments is designed to give the reader a basic foundation to evaluate subsequent discussions concerning commercial development, policy considerations and legal aspects of Ocean Leasing. The State of Hawaii Department of Planning and Economic Development has prepared three in-depth Technology Assessment Supplements for the reader who wishes a more detailed analysis of the current technology. These Supplements are available upon request from the Aquaculture Development Program of the Department of Planning and Economic Development. The titles of each of the three technology assessments are: Mariculture; Ocean Thermal Energy Conversion and Ocean Thermal Energy Conversion Related Activities; and Fish Aggregation Devices.

A. MARICULTURE

Aquaculture is defined as the propagation and cultivation of aquatic animals and plants for profit or social benefit. The aquaculture activities which take place in brackish water or seawater are termed mariculture.¹

Major reasons for encouraging worldwide mariculture development include: (1) food production, (2) enhancement of natural stocks of sport or commercial species, (3) production of bait, (4) production of ornamental fish, (5) waste treatment or reclamation of waste products and (6) production of industrial products.²

Fewer than one hundred animal and plant species are widely cultured for food and other purposes.³ Perhaps one-third of these species are cultured in saltwater and hence can be considered mariculture.

Four groups of organisms are cultured around the world: Fish, molluscs (e.g. oysters and clams), crustacea (e.g., shrimps and

crabs) and seaweed. Generally, commercial culture is most feasible if these species possess certain biotechnical and economic characteristics.

Worldwide mariculture activities were examined to determine which major species are candidates for, or are being, commercially cultured. Nineteen groups of marine or brackish water species were identified.⁴ Many of the species do not exhibit all the desirable biotechnical characteristics. Some have not demonstrated favorable production economics for particular rearing systems, but all are marketable either locally, regionally or worldwide. There are numerous species for which various important desirable biotechnical characteristics are not demonstrated, yet commercial production is being carried out. This is due, in large part, because specific (often site-specific) species, rearing systems or market characteristics allow less efficient and cost-effective production processes to be profitable.

It has been concluded that: (1) life cycle control, seed stock availability and feed development are major constraints to expansion of mariculture of marine fish; (2) emphasis in crustacean mariculture has been on land-based systems rather than offshore systems; (3) expansion of mollusc and seaweed mariculture will largely depend on the availability of sites with adequate supplies of natural productivity (foods) and/or nutrients or on the development of cost effective feeding and fertilization techniques for open systems; and (4) many private and public research institutions around the world are working on life cycle control, seed production, engineering of culture systems and other bottlenecks to mariculture; thus near-term availability of increasing numbers of species and systems for commercial mariculture is imminent.⁵

Systems used in nearshore and open ocean mariculture activities vary in construction and operation with the species under culture and the need for protected waters. Three general types of systems can be identified: (1) modified natural environments, (2) surface systems and (3) submerged systems.

Modified natural environments include natural stock enhancement or ocean ranching, habitat enhancement and habitat enclosure. These are extensive culture systems in which there is minimal manipulation of the stock or the rearing environment by man.

Open ranching is a method which involves the release of artificially propagated juvenile fish into marine waters to grow on natural foods to harvestable size, e.g., salmon ranching. Harvesting usually occurs when the stock is captured by conventional fishing gear.⁶

Habitat enhancement occurs when natural environments or substrates are improved to increase the natural production of the area. One example of this technique is planting seaweeds in an appropriate area where they will receive adequate nutrients and grow to harvestable size. No man-made structures are used in this method.

Habitat enclosure commonly refers to fencing off a portion of a nearshore marine environment, such as a bay, to permit containment of a mobile stock, e.g., shrimp or fish. Impoundment can be suspended nets, anchored to the bottom or by wire fences. Supplemental feeding is often necessary.⁷

Surface systems can be characterized as either; (1) cages made of flexible or rigid materials or (2) ropes, baskets or other materials which are suspended from the surface so that non-mobile stock can be attached or contained.⁸ Surface systems are for the most part designed for nearshore sheltered areas with adequate water circulation.

Recently the Japanese developed a submerged net cage which is suspended from buoys on the water surface. This system can be used in less sheltered areas.⁹

Suspension of a cultured organism from a raft or buoy is called hanging culture. Three variations of hanging culture are utilized: String, basket and tray culture. Flotation materials

and frame structures for rafts used in hanging culture are similar to that used for cage culture.¹⁰

Molluscs cultured by these methods must feed on the naturally occurring plant and animal material (natural production) at the site. Cleaning and harvesting is generally carried out by hoisting the strings, baskets or trays into a boat.¹¹

Submerged systems are located on the ocean bottom or are floated in mid-water but are attached to the bottom. These systems may be placed so that they are totally submerged at all times or periodically submerged by tidal action. Three types are identified: (1) submerged cages, (2) minor structures for attaching or containing stock, and (3) major structures for attaching or containing stock. The third type is related to OTEC and artificial upwelling systems and is discussed under the OTEC section of this report.

Submerged cages resemble floating cages in structure and function. They have the advantage of being able to be deployed in open ocean areas exposed to strong wind and short and long period waves. Surface components for these systems may not be necessary or may be reduced to a few marker buoys.¹²

Large-scale, deep submerged cage culture is experimental. Significant work is going on at the Oceanic Institute, Makapuu Point, Hawaii. Experiments suggest that large cages can be made from galvanized steel pipe and plastic mesh. Preliminary data suggest a system of 15 such cages may be an economically viable unit.¹³

Submerged culture utilizing minor structures for attaching or holding stock are characterized by a diverse array of activities. One set involves seaweeds, which are attached to nets, lines and stakes in shallow tidal areas. Crops are continuously harvested by hand; that is, they are trimmed and allowed to grow back.¹⁴

Another set of activities involves on-bottom post, rack or tray culture of molluscs. These systems are similar in principle

to hanging culture using strings, baskets or trays; however, rather than being suspended from the surface, the stock is supported off the bottom.¹⁵

Deployment and operation of various types of mariculture technologies in coastal and offshore waters will cause some environmental impacts on the ocean surface, water column and/or on the underlying substrate. The type and magnitude of the impact will largely be dependent on the type and scale of the operation. Four general areas are discussed; habitat, freedom of passage, non-indigenous species, and aesthetics.

Mariculture operations may have a physical and/or broader ecological impact in the surrounding ocean environment. Potentially reversible physical impacts (changes in structure) can be expected if a system is anchored to or rests on the ocean substrate.

Uneaten feed and unabsorbed fertilizers in the form of particulate and dissolved nutrients will be released into the water column or deposited on the substrate. Additional nutrient inputs can be expected from the particulate and dissolved waste products of animal stocks. Such nutrient inputs into an oceanic nutrient-poor environment will cause some biostimulation, i.e., growth of planktonic and substrate living animals and plants.

As with the case of other fixed-location ocean technologies under consideration in this study, mariculture structures can be expected to attract and/or concentrate naturally occurring organisms, particularly fishes and benthic invertebrates. Baseline data concerning aggregation characteristics of fixed-location objects will be needed to anticipate results with acceptable accuracy.

Placement of mariculture activities may necessitate restrictions on activities occurring in the vicinity of a particular site. Surface structures such as rafts or buoys and submerged structures

such as cages or anchor lines will necessitate rerouting of commercial and recreational activities. For submerged structures, restrictions may be periodic such as during harvesting or maintenance. Operations located close to shore may necessitate restriction of activities on shore.

If an economically important and commercially feasible native mariculture species does not exist in an area, then it may be desirable to import non-indigenous species. Consideration must be given to the possibility of escape of non-indigenous species into the natural environment and perhaps the eventual establishment of breeding populations. Potential positive and negative ecological consequences should be weighed along with potentially positive and negative socioeconomic results.

Mariculture operations permanently located at the ocean's surface will have a super-structure, and hence may be considered as impacting on the ocean view-scape. Current technologies indicate surface structures such as rafts and buoys will be single level, and support vehicles will probably resemble conventional boats. Noises emanating from mariculture activities during routine operation or harvesting may be similar to ship operation noise.

Historically, mariculture activities in Hawaii have primarily taken place on the land or in ancient coastal fish ponds. Ocean oriented development has been limited to a small scale natural stock enhancement program for oysters and numerous laboratory research projects to determine culture potential of various local and non-indigenous species. Research results indicate several species have mariculture potential for nearshore and open ocean systems; however, biotechnical problems, costs of production and market demand need further study.¹⁶ To date there have been no attempts at pilot scale or full scale commercial mariculture in the nearshore or offshore environments of Hawaii.

There are, however, increasing amounts of private investment in land-based mariculture systems which suggests that biotechnology

and economics of certain marine species have progressed to a point where risks appear manageable. Recent passage of the National Aquaculture Act may substantially increase the level of research on mariculture species and systems in the United States.

In conclusion, several preliminary statements concerning the potential for near-term future development of nearshore and open ocean commercial mariculture in Hawaii can be made from the previous examination of the state of technology. Few Hawaii species appear to have reached a level of biotechnology and economic feasibility for commercialization; therefore, near-term development may require importation of non-indigenous species which are commercially cultured elsewhere with their attendant ecological risks or increased levels of research on local organisms. Many of the species being commercially cultured around the world are temperate or cold water species (e.g., salmon, lobster, abalone, and various seaweeds) whose adaptability to ambient Hawaii water temperature regimes (OTEC cold water aside) is not well known. Others of the world's commercially cultured species (molluscs and seaweeds) require fertile natural environments for successful production and environmental conditions of this nature are not prevalent in Hawaii waters. All the mariculture systems discussed are potentially applicable to Hawaii conditions, though materials may differ and those surface systems requiring sheltered waters may be limited by site availability.¹⁷ Clearly, assessment of potential sites for nearshore and open ocean mariculture is needed for informed discussion of development potential. Finally, Hawaii has a growing complement of aquaculture researchers and facilities on which a tropical mariculture research program could be built which would benefit the many oceanic countries of the Asian Pacific Basin.

B. OCEAN THERMAL ENERGY CONVERSION AND OCEAN THERMAL ENERGY CONVERSION RELATED ACTIVITIES

Ocean Thermal Energy Conversion (OTEC) offers a particularly promising energy resource for Hawaii. This resource relies upon the temperature differential between warm surface and cold deep

waters.¹⁸ In the OTEC system, warm surface water and deep ocean water are circulated through heat exchangers which contain a low boiling-point fluid such as ammonia. The working fluid is evaporated by the warm water, powers a turbine, and is then condensed by the cold water. OTEC plants could not only provide a source of continuous 24-hour baseload power, but most important, no major technological breakthroughs appear necessary for commercialization. Since OTEC plants are floating systems, they offer considerable flexibility in utility planning for meeting future energy needs of the Neighbor Islands and would not involve any significant foreclosure of coastal land-use options.

The ultimate success of OTEC energy production in Hawaii waters will depend more on resolving problems of materials compatibility, seawater corrosion, biofouling control, mooring of large offshore structures, and the legal-regulatory climate, than on the efficacy of the OTEC process itself.

There are several OTEC projects of national and international significance that have been planned for or implemented in Hawaii waters: Mini-OTEC conclusively proved the feasibility of operating OTEC plants in an ocean environment.¹⁹ OTEC-1 is ocean-based test platform designed for testing large heat exchangers and biofouling countermeasures. The Seacoast Test Facility (STF) is a land-based OTEC research and development facility now under development at Keahole Point, Hawaii.²⁰ STF is designed as a long-term test facility to develop data essential to the design and reliable operation of large ocean-based OTEC plants.

The recently signed "Ocean Thermal Energy Conversion Research, Development, and Demonstration Act" (P.L. 96-310) has provided the mandate for OTEC technology development well into the 21st century by establishing national OTEC-energy production goals through the year 1999. The national goals call for demonstration of at least 100 MW of electrical capacity or energy product equivalent by 1986; 500 MW by 1989; 10,000 MW by 1999.²¹ In establishing these goals, Congress recognized that certain energy intensive products such as

ammonia, hydrogen, electrometals, and aquaculture products could be produced in lieu of or as a by-product of the OTEC process.

There appear to be four major classes of environmental concerns associated with the deployment and operation of large OTEC platforms. These include changes in oceanic properties, chemical pollution, operation of a manned platform, and secondary impacts associated with site selection, construction, and operation of OTEC plants. Ongoing studies sponsored by the State and Federal governments are providing data on the scope and severity of each real or potential problem so that remedial procedures and appropriate mitigation strategies can be developed.

The artificially "upwelled" deep ocean water, as well as the surface waters, are resources that have potential for the cultivation of a diverse array of plant and animal species for food, fiber, fuel, or biomass.

The possibilities for OTEC and OTEC-dependent industries are great and OTEC could help make Hawaii self-sufficient in energy and in other energy-intensive products by the end of the century.

There has been increasing interest in the food production potential of the ocean. Unfortunately, the world's oceans, which cover approximately 70 percent of the earth, offer only limited potential for increased food production in their natural state.²² This limitation is due to the lack of nutrients in surface waters of the open ocean.²³

OTEC platforms deployed in tropical and subtropical seas offer a means of tapping the cold, deep, nutrient-rich waters below the unproductive surface layer and, through artificial upwelling, making these nutrients available for controlled plant and animal culture systems. In addition to the deepwater nutrients (e.g., nitrogen and phosphorus), the combination of deep cold water and warm surface waters (available as a by-product of the OTEC process) offer the opportunity for producing a broad range of water temperatures and enormous water volumes for the growth of a diverse variety of commercially valuable organisms.²⁴

Research has shown that microscopic algae grown on artificially upwelled waters provide an excellent food for filter-feeding shellfish such as oysters, clams and scallops.²⁵ Early commercial OTEC-mariculture demonstration systems are likely to focus developmental efforts around certain high-value carnivorous finfish, such as salmon and trout. An estimated 100 million pounds of salmon could theoretically be reared yearly with one moderately sized OTEC plant. Assuming a market value of \$5.00 per pound, the total market value of such a crop would be \$500 million. This value would far exceed the value of the electrical energy produced by the OTEC plant.²⁶

Species selection opportunities would diversify in the future as OTEC and offshore mariculture, engineering, construction, and mooring technologies develop. Although the opportunities for the open-ocean culture of algae, fish and shellfish appear to be promising, there are still many obstacles yet to be overcome. Among these are the low oxygen content of deep water and the differing chemistries between surface and deep waters. The design, deployment and maintenance of massive offshore farms in a physically unstable and corrosive environment is likely to be the greatest impediment to rapid development.

Food, like energy, is an increasingly valuable commodity. They are both valuable because they are present in limited supplies, and demand often exceeds the supply. This situation will intensify as the world's population continues to expand. Clearly, OTEC and the food, biochemicals and biomass associated with development of OTEC technologies have the potential for partially satisfying the food and energy needs of Hawaii and, perhaps the nation as a whole.

C. FISH AGGREGATION DEVICES

A fish aggregation device is a floating or submerged structure deployed in the ocean to attract, congregate and hold fishes and other free-swimming aquatic organisms for harvest by commercial and

recreational fishermen. Pacific Islands, like the Hawaiian Islands, generally have a relatively narrow band of shallow water areas of which a large portion are flat and devoid of adequate relief for supporting fish populations. Moreover, surrounding deep waters are relatively nutrient poor and low in productivity. Hence fish aggregation devices have been successful in enhancing fishing opportunities.

Fish aggregating technologies have employed bamboo rafts (Japan and Philippines), slabs of cork (Mediterranean Sea) and palm fronds (Indonesia). Recently in Hawaii, Guam, Northern Marianas, American Samoa and Palau, special buoy devices made of rope netting, 55-gallon drums and a concrete anchor were tried successfully.²⁷ The latest generation of buoys in Hawaii is made of large truck tires filled with flotation material and single anchor lines with numerous rope streamers hanging from them. Target species for the devices are popular pelagic fish species.²⁸

Environmental impacts resulting from extant fish aggregating buoys are negligible (i.e., deterioration of buoy components, aesthetics, anchor on ocean floor). Conceivably with widespread use and uncontrolled development of fish aggregating technologies, especially by underdeveloped countries, significant environmental impacts could result such as: navigational hazards, reduction of certain fishery resources below a sustainable yield level, fishermen use conflicts, and entanglement of protected endangered and threatened pelagic animals.²⁹

In 1977 the Honolulu Laboratory of the National Marine Fisheries Service with the cooperation of the Pacific Tuna Development Foundation began experimenting with four fish aggregating buoys in Hawaii waters. These buoys demonstrated their effectiveness in attracting and holding tuna schools and other pelagic fishes long enough for Hawaii's fishermen to fish them profitably.³⁰

In 1979 the State of Hawaii, through the Department of Land and Natural Resources, Division of Fish and Game, embarked on an

ambitious five-year Statewide Fish Aggregation System Program as part of the Hawaiian Fisheries Development Plan. During the first year of the program, 26 fish buoys of a unique tire design were constructed and deployed (April-May 1980). Buoy sites (Oahu-9, Hawaii-7, Molokai-3, Kauai-3, Lanai-1, Maui-1, Kahoolawe-1, Niihau-1) were determined as a result of public meetings with fishermen held statewide and coordinated with the U.S. Navy. The sites were located three to 25 miles offshore and in 1,200-to-6,000-foot depths.³¹ In the first two months of buoy installation, fishermen reported catching approximately 30,500 pounds of fish from around the buoys. Primary emphasis during the first two years of the program is maintaining the buoys on station cost-effectively, including the installation of additional buoys as funds would permit.

It is envisioned that by the year 2000, there could be a Statewide Fish Aggregating System with an optimal number of fish buoys strategically placed throughout the main and Northwestern Hawaiian Islands, including deep water sites (1,000 to 2,000 fathoms) within the 200-mile U.S. Fishery Conservation and Management Zone. The future buoys may be fitted with radio transmitters for satellite monitoring, and sound and odor fish-attractant devices. Rising costs of buoy materials, lack of cooperation by the fishermen, buoy-use conflicts and buoy vandalism are some of the potential problems and constraints that may impede the development of Hawaii's buoy program.³²

FOOTNOTES

1. Aquaculture Development for Hawaii, State Department of Planning and Economic Development (1978), p. 1.
2. P. A. Sandifer, "The Necessity for Aquaculture Development," Marine Technology Society Journal (Vol. 13, No. 3, 1979), p. 35.
3. National Aquaculture Plan, Draft, National Oceanic and Atmospheric Administration, U.S. Department of Commerce (1980), p. 4.
4. This information was compiled from a variety of sources including: J. E. Bardach et. al., Aquaculture the Farming and Husbandry of Freshwater and Marine Organisms (John Wiley & Sons: 1972) 868 p.; O. Kinne (ed.), Marine Ecology, Vol III Part 2 Cultivation (John Wiley & Sons: 1977) 1293 p.; F. W. Bell and E. R. Canterberry, Aquaculture for the Developing Countries (Ballinger Publishing Company: 1976) 247 p.; Aquaculture Development for Hawaii, State Department of Planning and Economic Development (1978) 222 p.; Advances in Aquaculture, Proceedings of the FAO Technical Conference on Aquaculture, Kyoto, Japan, 1976 (Unpub: 1979), 653 p.
5. Natural Aquaculture Plan, Draft, supra, note 3, pp. 28-66.
6. T. R. Rao, "Enhancement of Natural Populations of Moi (Polydactylus sexfilis) in Hawaii through the release of hatchery-reared juvenile, a feasibility study of sea ranching," (Hawaii Institute of Marine Biology, University of Hawaii Tech. Rept. No. 33, 1977), p. 15.
7. D. Moller, "Recent Developments in Age and Enclosure Aquaculture in Norway," FAO Technical Conference on Aquaculture (FIR:AQ/Conf/76/R. 20, 1976), 12 p.
8. J. E. Bardach, et. al., Aquaculture, the Farming and Husbandry of Freshwater and Marine Organisms (John Wiley & Sons, Inc.: 1972) 868 p.
9. M. Fujiya, "Coastal Culture of Yellowtail (Seriola quinqueradiata) and Red Sea Bream (Sparus major) in Japan," FAO Technical Conference on Aquaculture (FIR:AQ/Conf/76/E.53, 1976), 10 p.
10. J. B. Glude, "Oyster Culture, A World Revue," FAO Technical Conference on Aquaculture (FIR:AQ/Conf/76/R.16, 1976), 11 p.
11. Id., pp. 2-7.

12. J. E. Hugenin and Guy N. Rothwell, "The Problems, Economic Potentials and System Design of Large Future Tropical Marine Fish Cage Systems," Proceedings of the Tenth Annual Meeting of the World Mariculture Society (Louisiana State University, 1979), pp. 162-181.
13. Id., p. 169.
14. J. E. Bardach, et. al., supra, note 8, pp. 790-814.
15. R. Meixner, "Culture of Pacific Oysters (Crassostrea gigas) in Containers in German Coastal Waters," FAO Technical Conference on Aquaculture (FIR:AQ/Conf/76/E.28, 1976), 4 p.
16. J. S. Corbin, Aquaculture in Hawaii 1976, (State Department of Planning and Economic Development: 1976), p. 7.
17. J. M. Grace, ed., Marine Atlas of Hawaii, Bays and Harbors, Sea Grant Miscellaneous Report (UNIH-SEA GRANT-MR-74-01: 1974), 241 p.
18. William E. Richards and J. R. Vadus, Ocean Thermal Energy Conversion: Technology Development, Mar. Tech. Soc. Jour., 14(1), p. 3.
19. This accomplishment is appropriately described in a cable to President Carter, dated October 3, 1979, from George R. Ariyoshi, Governor of the State of Hawaii. Portions of the text of the cable read as follows:

"I am delighted to send to you the good news that Hawaii has achieved an historic first in energy production. Today, we are producing approximately 50,000 watts of electricity almost directly from sun-heated ocean water in the process called OTEC, or Ocean Thermal Energy Conversion. This is the first time this has been done anywhere in a closed-cycle, self-sustaining OTEC system operating at sea. The electric power is being generated on a loaned Navy barge one and one-half miles off Ke-ahole Point on the Island of Hawaii. This is a joint experimental pilot project of the State of Hawaii, Lockheed Missiles & Space Co., Inc., Hawaii's Dillingham Corporation, Alfa-Laval Thermal, Inc., and other industrial firms in cooperation with Hawaii County. No fossil fuels are involved. The process is exceptionally clean, unlike coal, oil or gas. The electricity comes from a generator turned by a turbine powered by the expansion of heated ammonia. The ammonia expansion and pressurization are caused directly by the "fuel" which is our sun-heated tropical ocean water. The entire power needs of the barge and its extensive test system are being provided by the electricity thus generated. Cold water from 2,700 feet below the barge condenses the ammonia in a perpetual cycle of electrical energy production. Mr. President,

this historic breakthrough means, our scientists and technicians tell us, that the OTEC theory has been proven sound. It can mean that in the not-too-distant future, cities of 100,000 people can be supplied with all the electricity they need by giant, at-sea OTEC plants. According to present calculations, such energy can compete with the cost of fossil fuel energy resources."

20. State Energy Resources Coordinator, 1979 Annual Report, (Department of Planning and Economic Development, State of Hawaii, 1980), p. 37.
21. Energy product equivalent is defined in P.L. 96-310 as an energy carrier including but not limited to ammonia, hydrogen, or molten salts or an energy-intensive commodity, including but not limited to electrometals, fresh water, or nutrients for aquaculture.
22. John H. Ryther, Photosynthesis and Fish Production in the Sea, Science 166, (1969), p. 72.
23. J. H. Ryther, W. M. Dunstan, K. R. Tenore and J. E. Huguenin, Controlled Eutrophication-Increasing Food Production from the Sea by Recycling Human Wastes, BioScience, 22:3 (1972), p. 144.
24. Oswald A. Roels, From the Deep Sea: Food, Energy and Freshwater, Mech. Eng., June 1980, p. 37.
25. Oswald A. Roels, J. B. Sunderlin and S. Laurence, Bivalve Molluscan Culture in An Artificial Upwelling System. World Mariculture Society, Honolulu (1979).
26. Dr. Arlo Fast, personal communication, September 26, 1980, Hawaii Institute of Marine Biology, University of Hawaii.
27. A Statewide Fish Aggregating System (State Department of Land and Natural Resources: 1978), 19 p.
28. Id., p. 2.
29. Kenji Ego, personal communication, September 19, 1980, Director, Division of Fish and Game, Department of Land and Natural Resources.
30. A Statewide Fish Aggregating System, supra, note 27, pp. 1-3.
31. Kenji Ego, personal communication, September 19, 1980, Director, Division of Fish and Game, Department of Land and Natural Resources.
32. Id.

SECTION

3

III. COMMERCIAL DEVELOPMENT OF OCEAN RESOURCES: CONCERNS, NEEDS AND RECOMMENDATIONS

Mariculture and OTEC are potential new uses of offshore waters in the State of Hawaii which may or may not reach a point of commercial viability. Since the ocean waters of Hawaii are nutrient poor, the nutrient rich cold water ("thermal") plume which will be the effluent waters from OTEC plants may be the necessary component to allow commercial development of mariculture in Hawaii. And, of course, commercial development of OTEC would enable Hawaii to further its goal of energy self-sufficiency. One controlling factor in each case is technological advance, which is dependent upon continuing biological and engineering research and development (R & D). At both the national and the State level, this R & D has been and will likely continue to be funded or conducted primarily by government. The State of Hawaii has become a leader in commercial aquaculture because it has committed significant funds for research programs and facilities. The Hawaii State Legislature appropriated more than \$2.6 million for aquaculture and commercial fisheries projects in 1978, for example, including \$1.25 million to establish a Tropical Aquaculture Center on the island of Oahu's North Shore.¹

Actual commercialization, however, will be carried out by the private sector. This is recognized by both the Hawaii State Legislature and the present State Administration.² It is thus necessary to address at the outset how the concerns and needs of those individuals or corporations who might seek private use of ocean space for mariculture and OTEC operations should be met, recognizing that these private needs must to some extent conflict with traditional public uses of offshore waters. Private use of ocean waters raises important legal and policy issues. These are examined in some detail in Sections IV and V of this report. The present section will only discuss these issues insofar as they relate to questions of OTEC or mariculture commercialization.

The ocean entrepreneur has four needs which must be met before commercial development of ocean resources can progress: (1) property rights; (2) security of tenure; (3) appropriate government regulation; and (4) access to capital and reduction of initial overhead costs. The first two interests need explicit and direct protection, which can only be granted by ocean leasing legislation. The latter two interests necessitate changes in existing laws, or additional related legislation. It must be noted that some aspects of the problems and needs faced by the private ocean user are beyond the scope of State control, but the State may influence the treatment they receive.

The analyses and recommendations which follow draw upon not only written sources, but also and more importantly upon interviews and correspondence with business persons, scientists and government administrators in Hawaii who are presently concerned about OTEC and mariculture development, ocean uses, and dispositions of State Conservation District lands and waters. National authorities and entrepreneurs from throughout the United States have also contributed their views.

A. PROPERTY RIGHTS

The foremost problem and need of the private entrepreneur is the establishment and guarantee of property rights. This particularly pertains to mariculture activities. "A mariculture operation is pointless without rights of ownership and control of the cultivated products."³ At present, living ocean resources are considered part of the corpus of the "public trust" (a concept analyzed in detail in Section V of this report), and therefore not susceptible to ownership until caught. The common law view is that "the fish of the sea . . . belong by an absolute title to him who first succeeds in obtaining possession of them."⁴ This rule must be modified by statute to recognize and protect the kind of "possession" a mariculturist obtains.

Mariculture represents a fundamental change in man's use of the sea. Changes in attitudes, mariculturists argue, must also occur. "We can no longer afford to think in terms of preserving every right we have had in the past."⁵ One commentator has observed:

"Aquaculture is not merely new, it is contrary to the historical pattern of western life. The laws governing aquaculture were devised for a society of hunters and gatherers. They rest on the assumption that the sea and its natural resources are not private but public property. For any system of private culture and husbandry to function the law must create property rights in the products of that activity. . . . The Law has long recognized a distinction between feral and domestic land animals. Yet it makes no such distinction in the case of marine animals."⁶

Ocean leasing legislation should be enacted which specifically declares such a distinction. Marine plants and animals approved by the State for culturing, and cultivated within a leased area by a mariculturist, may legally be recognized as private property. In contrast to konohiki fisheries legislation (19th century statutes also discussed in detail in Section V) a united declaration of property rights would not create vested rights to ocean space. Such vesting could be invalidated upon challenge, as violative of both the clear intent of Article 95, Hawaii Organic Act, to destroy all private ocean fisheries, and the prohibition of the public trust doctrine against irreversible alienation of public resources.

While general ownership rights to ocean waters or to natural living resources found within those waters may not now be granted, certain specific property rights can be securely established. Animal or plant species specifically "bred and fed" within a leased area can become private property, if other marine plants and animals found within a leased area, but not approved by the State for private culturing and harvesting, remain res nullius, the property

of "no one" but seizable by anyone. All State regulations concerning the taking of fish and game continue to apply to such non-private resources. Public access, however, may be made subject to the right of a mariculturist to conduct operations without undue interference. By the same token, cultured marine species can be recognized as private property only so long as confined within a privately leased area. Any escapement must subject the plants or animals once more to the general "capture" rule of the common law.

The establishment of property rights over cultured species would not violate the public trust doctrine. This legal concept protects the public's interest in common resources. But cultured species are introduced into leased marine waters; they do not exist in commercially exploitable quantities beforehand. Therefore, the mariculturist establishes a new resource in the leased area. "Mariculture is a form of breeding, not fishing, and once the activity is established, it is not competing with other fishermen."⁷ The public trust concept involves much more than this consideration, of course. Further analysis of the doctrine will be presented in Section V.

The "added value" justification is not present, however, when considering fish attracted to fish aggregation devices. Such devices by themselves do not enhance fish stocks. Where there is no active husbandry involved, a declaration of exclusive property rights to fish which gather in the neighborhood of an aggregation buoy or artificial reef would be legally very questionable. Such fish remain ferae naturae ("of a wild nature or disposition"), and by the common law "the ownership of wild animals and fish, not reduced to actual possession by private persons, is in the people of the state in their collective sovereign capacity, or in the state as representing all people."⁸ In a true mariculture operation, "the mariculturist is not preventing the fishermen from exploiting an ocean resource; he is only preventing them from

using a small area and causing incidental consequences of resource-area concentration."⁹ The consequences produced by fish aggregation devices, however, are not incidental to public fishing. The public trust doctrine, as well as public policy considerations, must in this situation restrain (1) any assertion of exclusive ownership by private parties, or (2) a declaration of such ownership in private parties by the State.

If a fish aggregation device were part of a total culturing system, the fish specifically cultured could be considered animus revertendi ("having the intention of returning"), and a recognition of private rights under common law principles could be made; but only for the species actually husbanded by the mariculturist.¹⁰ Public rights to fish in the vicinity of a fish aggregation device so used might need to be restricted, but only if the exercise of such rights would substantially interfere with cultivation and harvesting of the marine species for which exclusive property rights have been declared. However, this would be the exceptional situation. The State regulates fish aggregation devices presently by requiring permit approval for placement of the device. Because these devices usually do not require exclusion of the public, there is no need to include them in any ocean leasing program at the present time.

This balancing of public and private rights applies equally to any type of mariculture operation. A declaration of property rights would necessarily obligate the State to take measures to protect those rights. Restrictions upon public access to mariculture sites will be necessary. "All public uses [at a mariculture site], however, cannot be denied."¹¹ The mariculturist must afford the public reasonable transit and use prerogatives, even if this means redesigning a proposed mariculture activity in significant ways to accommodate public rights.

It must be noted that the recent ruling of the United States Supreme Court in the "Kuapa Pond" case (Kaiser Aetna et al. v.

United States)¹² limits the public's broad right of access to navigable waters under federal law. The Court held the "right to exclude" to be a fundamental element of property rights, more fundamental in some instances than the federal navigational servitude over navigable waters.¹³ This decision must be seen in light of the particular and fairly singular facts of the case, however. At issue were public access rights to a private marina developed at private expense over the area of a former fish pond, in Hawaiian law a private body of water, and originally separated from the open ocean by a sandbar. Nonetheless, the Court did rule that the federal Commerce Clause does not require a blanket application of public access or use servitudes over navigable waters. Rather, the Court pointed out that factual inquiries have been made in past cases of conflict with such servitudes to consider factors such as "the economic impact of the regulations, its interference with reasonable investment-backed expectations, and the character of the governmental action."¹⁴ The Court declared that such factors have "particular significance" and in particular cases, such as that of Kuapa Pond, public rights may be legitimately restricted. This ruling would in no way prevent the Hawaii State Supreme Court from asserting broader public access rights to Hawaiian waters on the basis of the State's right to protect public resources under the public trust doctrine.

Property rights, if established, must not only be enumerated, they must also be protected. "It is essential that title to growing crops [at sea] be clearly specified and mechanisms be established to enforce laws against trespass, interference, theft, damage, etc."¹⁵ Criminal penalties for unauthorized taking - "poaching" - of cultured species, and for willful interference or damage to mariculture operations, must be included in any ocean leasing legislation. The enactment of such penalties is a proper exercise of State authority to define and protect property rights.¹⁶ Criminal penalties have been enacted in each of the mariculture laws passed by other states.¹⁷

Enforcement of exclusive property rights can present a serious problem. On land, the rights of lessees and owners against burglary, rustling and other crimes against real property have been sustained by well organized law enforcement agencies. At sea, no such enforcement body exists. A recent survey of shellfish aquaculturists in the State of Maine showed that only 52 percent of the ocean lessees were satisfied with the police protection they were afforded.¹⁸ However, a mechanism does already exist in Hawaii for dealing with this problem--the deputizing of private citizens as game wardens by the State Department of Land and Natural Resources and utilization of Department of Land and Natural Resources personnel and enforcement officers.¹⁹ One scientist/entrepreneur suggests "it would be natural to use this existing mechanism to deputize the farmer [mariculturist] or his employee after appropriate instruction, provided that the ocean leasing law contains ground rules and sets appropriate limits on deputies' powers."²⁰

Since the cold-water ("thermal") plume will probably be a valuable resource to the mariculturist, it is important to determine who has the property rights to it. The facility itself would obviously be private. Fish populations attracted to the OTEC facility area due to OTEC's fixed-location status would have to be considered public, but public access might be restricted if necessary to protect the OTEC facility, or what is also likely, if necessary to protect the safety of the public.²¹ The cold-water plume, however, would seem to be in the nature of a private resource, as it exists only because the OTEC facility brings it into being. It is recommended that use of this resource by others be made the prerogative of the OTEC operator, or at least subject to the approval of the OTEC operator. Technologically speaking, this should be so, for two reasons:

- (1) Use of the nutrient-rich cold-water plume for mariculture or for any other purpose is likely to be only possible by direct tie-in with the OTEC system of discharge pipes. Apart and separate from the matter of private property rights to the pipes

themselves, the OTEC operator must have control over such arrangements in order to maintain production efficiencies. "Cold, deep water passed through a mariculture activity and discharged to warm surface waters might adversely affect the OTEC 'thermal' resource, that is, warm surface waters could be cooled enough by the mariculture water to reduce the electric plant output . . . a one degree drop in surface temperatures can cut plant power output to about 88 percent of nominal capacity."²²

(2) The OTEC operation must periodically counter biofouling, and may experience partial or complete shutdowns at any time.²³ The OTEC operator should not be held liable for damage to any state-licensed mariculture or other cold-water plume-dependent activity as a result of shutdown or counter-biofouling measures, unless the OTEC operator has fully taken upon himself such liability. This situation is akin to aquaculture operations utilizing heated water effluent from conventional on-shore power generating facilities. There the power company bears no liability for damages caused by periodic or accidental shutdown of the power plant.²⁴

Given these considerations, it would seem from a resource management point of view that the cold-water plume should be recognized as "quasi-private" property. If the State were to declare this to be its policy, it could (1) allow the OTEC operator to negotiate any use of the plume by others, and to specify on its own accord any damage liability it will hold toward a plume-user, or (2) the State could leave itself free to negotiate any external use of the plume, with approval by the OTEC operator as one condition of any use permit. This latter approach finds less precedent, as well as less favor from OTEC-development companies.²⁵

B. SECURITY OF TENURE

The second fundamental need which ocean leasing legislation must address is "security of tenure." Unlike the commercial fisherman, who invests his capital in boats and fishing equipment which

may be used productively anywhere fish are found, the fixed-location private ocean-user must spend considerable time and money gaining permission to use a specific ocean area which is suitable for his purposes.²⁶ His production equipment is likely to be very specialized and his investment fairly difficult to liquidate. Moreover, given the "pioneering" nature of fixed-location ocean activities, a considerable time lapse must be anticipated between activity initiation and success-of-concept demonstration. With regard to mariculture, the State of Hawaii Department of Planning and Economic Development estimates that "the commercial demonstration of an undeveloped species may take from five to eight years or more to realize."²⁷

These circumstances dictate that ocean leasing legislation, to be meaningful, must clearly authorize a state agency to lease portions of the ocean surface and the vertical water column to private entrepreneurs, and for periods long enough to allow these entrepreneurs to realize the benefits of their investment and work. With regard to place, for both mariculture and OTEC, it is the surface and the water column which are the critical environments, and legislation must clearly state the intent to allow leasing of these water areas. The legal foundation for such legislation is detailed in Section V of this report. With regard to time, private ocean activities should not be handled on a conditional use or month-to-month basis; leases must be granted to provide adequate "security of tenure." As with the matter of declaring property rights to cultured species, granting of leases for fixed-location ocean activities would not violate the Hawaii Organic Act by creating vested rights to ocean space, nor would such leasing in itself breach the public trust doctrine. However, any leases granted to private users of public waters would remain subject to navigational and public trust servitudes, and would be terminable without a need to pay compensation if such a provision were included in the lease.²⁸

It is recommended that the maximum length of an ocean lease be conditioned upon the nature of the activity and upon the level of capitalization. Thus, an OTEC lease should be for the longest term, 25 years, to allow for full amortization of the investment. At the other end of the scale, a half-acre seaweed culturing lease might be annually renewable.

It is recommended that experimental and administrative leases be granted only a five-year maximum lease term, in order to protect the interest of the State in fully utilizing ocean resources. The permit process may be less rigorous than for a commercial lease. The Board may find that in some instances it is not necessary to conduct a public auction for the lease. If an experimental operation is making recognizable progress toward commercialization, these leases might be renewed for one additional ten-year period. After fifteen years, however, a decision should be made by the lessee to secure a commercial lease or to abandon the project and make the site available to other potential entrepreneurs.

It is recommended that commercial activities be granted a maximum 20-year lease term, again in order to promote full resource utilization.²⁹ A commercial lease should be renewable at the end of each successive lease period, and should be renegotiated upon each renewal to guarantee that the public will receive fair compensatory benefits, through lease fees and royalties, for the private entrepreneur's use of public resources.³⁰ Absent a finding that the private marine operation is environmentally unacceptable, or that the public interest now requires that the area leased be used for other purposes, the commercial lessee should face no restriction upon the number of times his commercial lease can be renewed. Any commercial lessee should also have the right of first refusal upon a renegotiated lease.

There is statutory guidance now to support this approach. The Board of Land and Natural Resources is directed, in the case of leases of Conservation District lands, "to determine the minimum tenure necessary to support the intended use or uses and the necessity for periodic rent openings in long-term leases to assure the state a fair return."³¹

State law presently requires all conservation district leases to be granted by public auction.³² This creates uncertainties in tenure which can be dealt with in two ways:

(1) It is recommended that the Legislature amend H.R.S. Section 171-58, Minerals and Water Rights, Part 3, Special Dispositions: Sales and Leases Permitted Without Public Auction, or H.R.S. Section 171-59, "Disposition and Negotiation," to include fixed-location ocean uses, or specifically mariculture and OTEC uses. The rationale of Section 171-58 is that leases may be granted without auction when there is a finding and declaration of necessity; the statute presently pertains only to agricultural and residential uses. A legislative declaration of a special public interest in encouraging the development of specific private ocean uses would justify amending either statute. At present, there is little likelihood that competitive bidding will occur between potential private ocean users, given the lack of proven commercial success of mariculture and OTEC technologies thus far and the relatively few entrepreneurs in the field. The public auction requirement may initially be simply unnecessary make-work. If an exemption is accorded, it could be revoked at a later time, when mature technology and economic viability have made serious competitive bidding among ocean space users more likely.

(2) It is recommended that the Legislature provide in ocean leasing legislation a "sunken cost" clause. This would require that an entrepreneur who is outbid at public auction, and thus cannot conduct his approved activity, be reimbursed by the higher bidder for all expenses incurred in obtaining needed state permits

prior to the auction. All state permits would then transfer automatically to the higher bidder. The successful bidder should not be required to reimburse the permit-holder for any operational expenses unrelated to permit acquisition. Such a "sunken cost" provision would guarantee if not security, at least "fair play." The entrepreneur in this field would have a reasonable expectation that he could carry out his plans, or be reimbursed for his time and efforts.

C. GOVERNMENT REGULATION

A third need which must be addressed directly by the Legislature is appropriate government regulation. The Director of the State Department of Planning and Economic Development has stated:

"[G]overnment regulation is essential to protect the public and to prevent abuse of public trust in business enterprise. Such regulation--in moderation--is good for business as well as the whole community. But when controls strangle enthusiasm for an honest profit in an honorable and environmentally compatible enterprise, there is something seriously wrong."³³

In many other states at present, government regulation is a serious impediment to the successful development of new water-related industries. Much has been written detailing the regulatory problems encountered by aquaculturists. The National Academy of Sciences has stated:

"Current constraints on aquaculture development frequently discourage new initiatives, and . . . unless some of these constraints are overcome, progress will be further impeded. . . . Constraints on orderly development of aquaculture tend to be political and administrative, rather than scientific and technological."³⁴

Aquaculturists themselves mince no words. One says: "Without a doubt, developing a fish farm on an estuary, especially in Oregon, has to be the most closely viewed, scrutinized, investigated, debated and downright spied upon operation imaginable. . . . As for separate permits of last count we have eighteen, and there

are more to go."³⁵ The situation may become worse. Aquaculturists in California are warned that they "must be prepared to persevere in an extremely challenging and difficult regulatory environment which is constantly becoming more challenging and difficult with time."³⁶ The question is asked "why our government should continue to finance the development of science if government is simultaneously going to create major structural constraints preventing its useful application?"³⁷

This situation has deterred many potential entrepreneurs,³⁸ and led others to see a "dismal future" for aquaculture in the United States.³⁹ This conclusion has been reached as a result of practical experience with government regulation:

"We probably are the most impacted new promising technology that has ever existed in terms of government involvement in our decision-making and operations. In my particular firm, we have at least 42 different government agencies and sub-agencies with which to deal. Between 50 and 70 percent of my time is devoted to ministering to the affairs of government in place of using this time in the creative process of making abalone culturing a large-scale reality. This is an insurmountable burden to place upon the pioneers of a new technology."⁴⁰

The problem here is not only that the "obstacle course" must be run. It is also, and more importantly perhaps, that an operation may be "blown out of the water" at any time. A California aquaculturist states:

"The permit process is quite lengthy and involves permits from the Army Corps of Engineers; a Water Pollution Control Board; the State Public Health officials; the County Public Health officials; the State Fish and Game; the San Francisco Bay Conservation and Development Commission; the Coastal Commission and on to infinity. Fortunately for the Morgan Oyster Company . . . we have successfully at this moment obtained such permits. However, as they are annual permits, from an operator's point of view you never quite know which one of the multitude of governmental bodies may for one reason or another shut your operation down."⁴¹

One analyst studied the aquaculture industry in California "to determine whether the overhead monetary cost attributable to the regulatory permit process serves as a major barrier to the development of coastal aquaculture."⁴² The analyst examined the permit acquisition experiences of seven aquaculture firms and found that costs ranged from \$400 to \$85,000. The acquisition period ranged from 30 days to seven and one-half years!⁴³ The analyst concluded that "while the monetary cost of the [permit] process is indeed a barrier to the development of aquaculture, it is not a major one. Rather, the real barriers are the length of the process, the diversion of managerial energy, and the increased level of risk."⁴⁴

The question is whether this is necessary. In Hawaii, a serious and successful effort has been made to streamline the regulatory process with regard to aquaculture. The state has been selected by the President's Joint Subcommittee on Aquaculture as one of ten states to be used as case studies to determine how federal regulations may also be streamlined.⁴⁵ Hawaii Governor George Ariyoshi has stated: "Red tape is often the result of society's laudable desire to protect its citizens and environment. We see a crime committed against the environment, and we pass strict laws or regulations to prevent similar crimes. In the process, we handcuff desirable activities."⁴⁶ Hawaii has revamped its regulatory system to loosen these handcuffs. Mariculturists recognize the importance of the favorable institutional climate which has been created.⁴⁷ The contrast between the situation in Hawaii and elsewhere is in some cases startling. An aquaculturist in Hawaii might have to obtain at worst 15 permits; a salmon operation in Alaska, on the other hand, would require 120 permits.⁴⁸ In short, the State of Hawaii has implemented a sound program of regulation which is tailored to the specific circumstance. This is a policy clearly needed and one which has already brought aquaculturists and the State great benefit.⁴⁹

Authority to approve or deny Conservation District uses now rests with the State Board of Land and Natural Resources (BLNR), and is exercised through the Conservation District Use Permit (CDUP) procedure.⁵⁰ Although there is a question as to whether the State Department of Land and Natural Resources, the State Department of Agriculture, or neither, should be designated the lead agency for aquaculture development,⁵¹ in the matter of licensing fixed-location ocean uses, it is the position of this report that there is no reason to establish either a new permit procedure or a new regulatory agency at the state level. It is recommended that the Legislature explicitly delegate to the Board of Land and Natural Resources the responsibility to evaluate and approve or deny applications for private use of ocean space, applying the existing CDUP procedure.

Guidelines for BLNR to act upon in considering ocean leasing applications must be adopted in accordance with the Hawaii State Constitution (Article 11, Section 6). If new ocean activities are to develop, these guidelines must be responsive to commercial viability, must stress realistic environmental goals, and must direct the Board to find ways to support new commercial developments while maintaining protections of the ocean environment and public access to ocean resources. While the CDUP seems appropriate as the procedure to manage future ocean development, a comprehensive viewpoint should be incorporated into the evaluation process which would lead to consideration of environmental impacts in a broad context of public gains and losses.

A step in this direction has been taken by BLNR, with the approval in February 1980 of a CDUP for Brewer Chemical Company to conduct research on eucheuma seaweed farming in the Honolulu Airport lagoon. The Board attached nineteen conditions on the permit, the most important of which concerned responsibility for eradication of any escaped strains, and elimination and restoration of the site should the project be terminated.⁵²

It is recommended that responsible, rather than absolute or "zero-risk," safeguards of the public interest be pursued. For example, "requiring the fish farmer to prove beyond doubt that there will be no adverse effect will stifle development of mariculture."⁵³ Mariculture activities are necessarily intensive; there will be significant environmental effect within and near the area in which the activity is being conducted.⁵⁴ An unqualified "no significant adverse effect" guideline would effectively stop all development.⁵⁵ It is recommended that judgments of potential environmental impact should rather center upon an "acceptable-unacceptable" determination, based on appropriate criteria developed by the regulating agencies.

One commentator has cogently stated the basis for such an approach:

"While eliminating all risk is hypothetically possible in certain circumstances for the individual, it is almost always too expensive for the incremental return for society. Clean water and clean air standards represent far less than total solutions. In improving air quality or water quality, the initial increments are least expensive to purchase, purchasing the final increment to gain total purity may be impossible. . . . The risk-free society is not a realistic consideration, and attempts by government to eliminate risk may ultimately entail much greater cost than are felt to be acceptable.

"Government, then, is faced with the complex dilemma of first determining which risks to society require government intervention, and second, what level of risk is acceptable."⁵⁶

The State of Hawaii should continue its efforts to make the regulatory process work to everyone's interest.

The establishment of an ocean resources liaison officer to inform prospective applicants of the procedures they will have to follow and requirements they will have to meet and to coordinate state and federal permit approvals, could provide an important

complement for the mariculturist to the new Hawaii streamlined procedures. However, even in Hawaii there are numerous agencies and regulations to be dealt with. The entrepreneur needs assistance to counterbalance this array of governmental demands. First, he needs counseling. One aquaculturist has stated: "An added frustration to the imposing list of needed permits is the frequent lack of assistance from the regulating agency in helping with your problems. They set rigid rules or in some cases sliding rules that you cannot get hold of, and then serve as judge and jury . . . [If] there is no place to go for counseling in the system[,] you are on your own to sink or swim. The newcomer is hopelessly lost."⁵⁷

Secondly, the entrepreneur needs assistance in coordinating state and federal permit applications and approval procedures. Regulations of one agency may conflict with those of another; one agency may wait for another to make the first or final move; one agency may be sitting on an application, creating an approval bottleneck. These situations occur all too often, to the detriment of both the public and the private entrepreneur's interest.⁵⁸

The State of Hawaii has again moved towards remedying this problem. Hawaii has established an Aquaculture Development Program housed presently within the State Department of Planning and Economic Development. Hawaii has also adopted joint hearing and approval process for the CDUP and State Department of Transportation's "Permit for Work within Shore and Shorewaters."⁵⁹ The broader possibilities for commercial developments on or in state marine waters suggest the need to create and staff a parallel liaison officer who would seek to make the regulatory framework which exists function effectively, to educate public servants concerning new ocean uses, and to advise entrepreneurs of defects or problem areas in their plans and to direct them through the permit acquisition process.

If an applicant could obtain the assistance of an ocean resources liaison officer in coordinating the regulatory requirements, it would minimize delays as well as both agency and entrepreneurial time spent on paperwork. Each agency would retain its veto power over any proposed activity, while the opportunity for informal negotiation and activity modification to meet agency concerns would be increased. Regulating agencies would not work in isolation and an "acceptable-unacceptable" determination on each proposed activity could be reached based on a comprehensive perspective of the project's potential costs and benefits.⁶⁰

The interface between state and county and state and federal agencies also needs special attention. In particular, it is recommended that the State review federal regulations governing the importation of non-native species. Local entrepreneurs believe the aquaculture and mariculture industries will be largely built upon non-native species.⁶¹

Federal regulations are here the primary inhibitors for certain species, though state procedures might also be streamlined, and more consideration should be given, as recommended by DPED, to "economic and social realities as well as environmental implications."⁶² Thus, the present situation with regard to the importation of non-indigenous species needs to be reviewed to insure that native species are adequately protected and to allow reasonable and safe introductions of non-indigenous species for mariculture purposes. Federal regulations which contain a blanket prohibition of importation of non-native species may not recognize the unique situation of Hawaii which is often different from the mainland.

Federal restrictions in this area are directed to conditions in the continental United States and ignore Hawaii's "mid-Pacific insular nature, small size, and limited endemic fresh water and brackish water biota . . . [federal regulations] place the State in a clearly unfair position."⁶³ It is recommended that Federal

regulations be reviewed to determine if an effective variance procedure could be adopted that would allow for importation of commercially viable non-indigenous species absent a showing of a legitimate risk to the local environment. Certain State procedures may also cause problems for the entrepreneur. For instance the burden of gathering biological data is on the applicant, which, in some circumstances, can be overwhelming.⁶⁴ It is recommended that this requirement be reviewed and that the State continue its own research in this area to develop impartial data. This is but one example of a state-federal problem area which might be productively approached by an ocean resources liaison officer.

It is recommended that the establishment of such an ocean resources liaison officer be considered at the present time in conjunction with the adoption of ocean leasing legislation. A liaison officer might be located within the lead agency chosen for development-regulatory purposes, or alternatively it might be located within DPED, since it would have no regulatory functions. The development of a master application procedure needs further study.

One further aspect of government regulation which has great practical consequences is the Environmental Assessment (EA)/Environmental Impact Statement (EIS) requirement. The question here is whether all costs of the necessary environmental investigation should be borne by the permit applicant.⁶⁵

Here again a liaison officer could serve to expedite the flow of information and services. There is also the concern to allow the small-scale operator into the field, particularly in the area of seaweed cultivation. Provision should be made in such cases to allow agency discretion to conduct environmental surveys and to determine what portion of the costs of such services should be billed to the applicant.

Another way in which the State could encourage the under-capitalized entrepreneur to engage in mariculture operations would

be through mariculture parks. The Board of Land and Natural Resources would be empowered to develop, on behalf of the State or county, in partnership with others, state marine waters as a mariculture operation complex. Individual entrepreneurs could combine and concentrate their resources and capital investment in one area so as to achieve production and distribution economies. Presumably mariculture parks would enable those who might not qualify for traditional financing or who lack sufficient capital to get started in mariculture operations. The State has begun to institute an analogous management scheme in the form of agricultural parks.⁶⁶

D. FINANCING/INSURANCE

Commercial development of offshore resources is inhibited by two further major problems: (1) access to capital and (2) high insurance premiums. Again, these problems pertain primarily to mariculture activities. Financing of OTEC is concentrated upon one or a few ventures receiving direct government subsidies.

For the mariculturist, both the financing and the insurance problems stem from the high risk, "pioneering" nature of all potential offshore ventures. Mariculture entrepreneurs find it difficult to borrow money, obtain insurance, or pay extremely high insurance premiums. The consensus among such entrepreneurs is that without supportive government action in this area no industry can develop. One mariculturist has stated: "The principal constraint to the development of aquaculture in the United States is an array of federal policy decisions that are preventing the formation of risk-capital and blocking its flow into all forms of innovative small businesses."⁶⁷ The U.S. Congress has taken note of the problem: "Individuals or small companies wishing to enter the field of aquaculture have generally been unable to obtain necessary financing in the private sector."⁶⁸

While financing is not readily available to innovators, it is these individuals and companies upon whom the future success of mariculture depends. The trend currently apparent in the private

sector is for large companies "to apply their reduced research efforts to the improvement of existing products in existing markets where the risks are easily defined and where the pay-off of investment is a shorter distance into the future. This phenomena of large corporation hesitancy to enter new fields clearly exists in aquaculture where, with few exceptions, large companies are unwilling to pioneer this new technology but are, instead, waiting for individuals and their small businesses to pioneer their technologies and establish profitability before the large companies acquire the small pioneers."⁶⁹

There is clear justification for government encouragement of innovative industries. Small innovative businesses play a key role in stimulating economic growth. A recent M.I.T. study compared employment growth rates of representative mature companies, innovative companies and young high-technology companies between 1969 and 1974. The M.I.T. study found:

"During the five-year period the six mature companies with combined sales of \$36 billion in 1974 experienced a net gain of only 25,000 jobs, whereas the five young, high-technology companies with combined sales of only \$857 million had a net increase in employment of almost 35,000 jobs. The five innovative companies with combined sales of \$21 billion during the same period created 106,000 net jobs."⁷⁰

We are obviously not talking about "Ma and Pa" operations. While there is a potential particularly in seaweed cultivation for very small-scale commercial enterprises, generally speaking, mariculture activities will be pioneered by entrepreneurs with minimum investments in the neighborhood of \$250,000.⁷¹ Past encouragement of small-scale operations by agencies or institutions to go into mariculture with little or no capital reserve usually leads to potential difficulties resulting in failure. It is recommended that the present State Aquaculture Loan Program be amended so that potential mariculturists can qualify for the program.⁷²

Government should concentrate its attention on the needs of the viable yet innovative small to mid-sized company. Another commentator warns:

"The prospective for the market structure of coastal aquaculture in California today looks very much like the market structure of agriculture today. . . . The only way to ensure competition is to support small business. Unfortunately, unless proponents of aquaculture are willing to commit themselves to . . . creating ways to provide aquaculturists with capital to begin, expand, and operate their ventures, aquaculture will one day be known as 'aquabusiness.'"73

The result will be delay in development, and "higher prices for food of poorer quality."74

The passage of the National Aquaculture Act of 1980 demonstrates some government recognition of this problem. However, the actual response falls very short of remedying the problem with direct federal action. Federal loan programs continue, but are not enlarged or given new mandates. Neither the Farmers Home Administration nor the Farm Credit System of the federal Department of Agriculture has been or are likely to be of much assistance to the first generation of mariculturists. Both programs limit their financing to "established and proven aquatic ventures."75

At the state level, Hawaii has initiated its own aquaculture loan program, whose funding is likely to be increased by the 1981 State Legislature.⁷⁶ However, the statutory definition of "aquaculture" presently used for this program does not include mariculture operations. "Aquaculture" is defined as "the production of aquatic plant and animal life for food and fiber within the ponds and other bodies of water that are within the real property for which real property taxes are assessed and paid by the owner or producer." (H.R.S. Section 219-2). It is recommended that this definition be revised to qualify state-licensed offshore operations conducted within leased ocean areas.

The Legislature should also consider a State-backed mariculture insurance program to mitigate the casualty risks faced by mariculturists. Such a program "would be of immeasurable help to mariculture."⁷⁷ The mariculturist is exposed to unpredictable casualty risks to his equipment, his personnel and his stock. Insurance is obtainable but the premiums are very high.⁷⁸ Mariculturists suggest this is due to the present lack of actuarial data, and that with experience, insurance rates will adjust to match actual losses.⁷⁹ An insurance underwriter states, however: "We have behind us nearly seven years of practical experience in underwriting the risks to stocks of all species of aquatic creatures. . . . The risks in aquaculture demand fairly substantial insurance premiums to cover them."⁸⁰ This suggests that premiums may not fall appreciably in the future, unless new technology and improved techniques of disease control lessen risks of loss.

It is recommended that the State take a very large step toward commercialization of ocean farming by establishing a program (1) to subsidize mariculture insurance premiums or (2) to offer crop/liability insurance of its own, either in place of or as a supplement to privately available insurance. The insurance industry itself prefers the first approach. A spokesman for a major aquatic insurance-provider argues that direct government coverage of mariculture insurance needs would "usurp the function of the private insurance industry. . . . [Direct government insurance] is both expensive and tends . . . to support the inefficient at the expense of the efficient."⁸¹ Either program, if adopted, should be implemented as a temporary measure only, to aid the first generation of mariculturists.

A final factor which will significantly affect the calculus of commercial development is the negotiation of actual lease fees between the mariculturist and the State. The impact of rents on overhead costs could make the difference between viability and early failure for a mariculturist. The present policy of the State Department of Land and Natural Resources with regard to private

leasing of public lands is sound--annual rental fee supplemented by royalties on gross income. The need of the mariculturist, given the lengthy delay which must be expected between operational inception and break-even point, is for the major emphasis to be placed on royalties. It is recommended that base rents for ocean leases initially be set at low or even nominal levels, with percentage fees to be paid upon gross receipts or gross productivity. Percentage fees might increase if an enterprise matures economically. This approach places the State in partnership with the mariculturist and fairly distributes both the risks and the potential gains. Such a policy is "the best way to maximize public benefit while avoiding undue burden on the [ocean] farmer."⁸²

Another approach might be for the State to grant an initial, start-up lease without charging fees or royalties. Instead the State could require the mariculturist to allow the State unlimited access to the operation and the technical information relied upon in the operation for State research. This arrangement would furnish the State with a research facility at no cost to the taxpayer and at the same time assist the mariculturist in reducing his initial costs. The State presently has a similar arrangement to supply larvae to aquaculturists in exchange for State research opportunities.⁸³

E. CONCLUSION

The needs of the private ocean entrepreneur which can be addressed by State legislation are both fundamental and clearly apparent. These needs are the concern primarily of the potential mariculture entrepreneur, for whom competition, acceptance of risk, regulatory rules, financing and individual persistence will all play critical roles. No one takes lightly the monumental obstacles which block the near-term commercialization of mariculture in Hawaii. If the private sector is to be presented an opportunity to apply its ingenuity and perseverance to the difficult task of commercial development of offshore resources, the legal, regulatory and financial framework in which this development is to occur must

be created. Experience will point out mistakes in detail. Balanced against such risks of mistake is the prospect that ocean leasing may bring far reaching benefits to the private sector, the public and ultimately the protein-poor and energy-poor populations of the world.

The State Legislature and the present State Administration have already begun the work of shaping an appropriate institutional and legal framework to support the development of mariculture in Hawaii. In continuing this task, the words of one mainland observer are worth noting:

"There is no question in my mind that Hawaii must become intensively self-sufficient in the next 20 years. This will take concerted efforts in comprehensive planning and infusion of private and public funds to develop new food and energy resources in and for Hawaii. Consequently, the planning that you do today should be the best."⁸⁴

FOOTNOTES

1. Richard Kawakami, Chairman, House Committee on Water Land Use Development and Hawaiian Homes, "Developing Isle Aquaculture," Honolulu Star-Bulletin, May 4, 1978.
2. Kawakami, supra, note 1, states: "It is our [the Legislature's] belief that government's present role should be to promote research and development and provide support services to private industry. . . . Once research efforts have determined propagation potential of certain species in Hawaii's environment, the actual commercial production and practical application should be left to private industry." Hawaii Governor George Ariyoshi has summarized the Administration position by stating, "In Hawaii, aquaculture has clearly been given the green light." "Red Tape Versus Green Light," in William Brewer, Permits and Environmental Requirements for Aquaculture in Hawaii, State Department of Planning and Economic Development (Revised 1980), p. iii.
3. C. C. Hanson, et. al., "Legal and Political Perspectives on Open Sea Mariculture," in Open Sea Mariculture: Perspectives, Problems, and Prospects, Joe Hanson, ed. (Dowden, Hutchinson & Ross: 1974), p. 39.
4. J. W. Salmond, Jurisprudence, 10th ed., G. L. Williams, ed. (Sweet and Maxwell, Ltd., London: 1947), cited in Hanson, supra, note 3, p. 40.
5. Paul Bente, Jr., "Keynote Address: Mariculture on the Move," Proceedings of the First Annual Meeting of the World Mariculture Society (Louisiana State University, 1970), p. 24.
6. Gerald Bowden, "Marine Aquaculture in California: An Overview," unpublished paper (1977), p. 13.
7. Thomas Kane, Aquaculture and the Law, University of Miami Sea Grant Program (1970), p. 65.
8. Graves v. Dunlop et. al., 87 Wash. 648, 152 Pac. Rptr. 532 (1915). [Emphasis added]
9. Kane, supra, note 7, p. 65.
10. See Hanson, supra, note 3, for full discussion of common law ferae naturae and animus revertendi concepts, pp. 39-48.
11. Robert Hendry, "The Florida Mariculture Law," in Proceedings of the First Annual Workshop, World Mariculture Society (Louisiana State University, 1970), p. 48.

12. 444 U.S. 164 (1979).
13. Id., at 179-180. The Kuapa Pond case involved a question of federal law, the application of the federal navigational servitude based on the Commerce Clause of the United States Constitution. The ruling restricted only the use of this federal prerogative. A collateral attack by the State of Hawaii or by a private party based on the public trust doctrine, as a question of state law, is still possible.
14. Id., at 175.
15. John Glude, author of the NOAA Aquaculture Plan (1977), personal communication, July 30, 1980.
16. In Robinson v. Ariyoshi, 441 F. Supp. 559 (1977), the federal District Court reversed on due process grounds the ruling of the Hawaii State Supreme Court in McBryde Sugar Co. v. Robinson, 54 Haw. 174, 504 P. 2d 1330 (1973) and 55 Haw. 260, 517 P. 2d 26 (1973), which had awarded surface water rights to the State; however, the court acknowledged that it is "axiomatic that the law of real property is left to the states to develop and administer." Cited in Robert Kamins, "Ownership of Geothermal Resources in Hawaii, 1 University of Hawaii Law Review (1979), p. 82, n. 95, who argues that this ruling recognizes one basis for the State of Hawaii to claim ownership and control over another disputed natural resource, geothermal energy.
17. See survey of state ocean leasing laws, Appendix A of this report.
18. John R. Moring, Maine Cooperative Fishery Research Unit, University of Maine, personal communication, July 23, 1980.
19. H.R.S. Chapter 199, "Conservation and Resources Enforcement Program."
20. Guy Rothwell, Oceanic Institute, Hawaii, personal communication, August 19, 1980.
21. Roger Mann, Woods Hole Oceanographic Institute, Maine, warns that "OTEC's large enough to generate useful power may present considerable mooring problems in that pumping so much water they are liable to spin on their own axis (Coriolis force)." Personal communication, August 4, 1980. Factors such as this may make it necessary to restrict access because of navigational hazards and also matters of liability which arise therefrom.
22. George W. Phillips, Jr., Vice President Energy Systems, Global Marine Development Inc., systems integration contractor for OTEC-1 vessel, personal communication, July 22, 1980.

23. Id. Phillips continues, "some means will be necessary to keep heat exchanger surfaces relatively clean. There are three possible ways to do this: Periodic scrubbing with some abrasive material (brush, sponge rubber ball, or slurry); periodic or continuous injection of a biocide (chlorine, bromine, hot water); and coating surfaces with anti-foulants (copper, organo-pin, arsenic, mercury). Some combinations of all three methods, or two of the three may also be used. Clearly, the effluent from such cleaning activities could affect the mariculture operation. Further, OTEC uses various metals in its construction. Some may be dissolved in extremely small concentrations in the effluent. These metallic ions could also affect the mariculture operation adversely.

"So instead of a nice synergistic activity, we may see a conflict between OTEC operations and mariculture activities. Therefore, any leasing criteria should consider the possibility of interference between the different activities."

24. Charles Jagoe, et al., "Commercial Aquaculture of Fishes in Maine," Migratory Fish Research Institute, University of Maine (1980), unpublished, pp. 2-5, describes one such arrangement in Maine.
25. California Marine Associates (CMA) and the Atlantic Richfield Company (ARCO), for example, negotiated in 1976 the use of ARCO's oil platform, "Holly" for research and development of an offshore abalone grow-out operation. This program has been funded by ARCO, with CMA carrying out the research. Hugh Staton, General Partner, CMA, personal communication, May 28, 1980. This provides an analogue to the OTEC situation in that the resource used by the mariculturist remains under the control of the resource provider, ARCO. With regard to potential OTEC developers, the General Electric Company, for one, feels "that the optimal approach to use of the nutrient rich deep ocean water would be to combine the ocean farming and OTEC technologies. The GE approach to OTEC in the near term is to mount the power plant on a jacket (Texas tower) to minimize the cable, cold water pipe and floating plant interface concerns." M. G. Olmstead, Program Manager, OTEC, Advanced Energy Systems, Projects Engineering Operations, General Electric Company, personal communication, May 21, 1980. A mariculturist may seek use of the OTEC jacket as well as the OTEC-upwelled water. Matters are simplified if the OTEC operator controls both resources.
26. Rothwell, supra, note 20, states: "Just as on land, there are ocean areas adjacent to the Islands which will prove more favorable to ocean farming than others. Certain compensations of bottom depth and topography, current velocity maxima, intensity of wind and ocean swell, and proximity to harbors will make some areas easier to farm than others, just as some parcels of arable land are more arable than others."

27. Aquaculture Development for Hawaii, State of Hawaii Department of Planning and Economic Development (1978), p. 14.
28. All property rights below high-water mark are held at the discretion of Congress. In United States v. Willow River, 324 U.S. 499 (1945), the U.S. Supreme Court stated that proprietary and usufructuary interests in navigable waters are mere privileges, "permissible so long as compatible with navigation interests." (Id. at 509) Such interests are not "protected by law when . . . [they become] inconsistent with plans authorized by Congress for improvement of navigation." (Id.) Leighton Leighty, "The Source and Scope of Public and Private Rights in Navigable Waters," V Land and Water Law Review (1970), p. 431, states the meaning of this ruling: "Since there is no 'property,' nothing is 'taken.' Hence no compensation is required."

Public trust servitudes are discussed further in Section V(D) of this report. See especially discussion of Boone v. Kingsbury, on the right of the state to remove any structure in navigable waters, and State of Hawaii v. Texaco, on State's capacity to terminate leases for exclusive use of space or facilities located within public trust resource areas. The United States Supreme Court ruling in Kaiser Aetna discussed, supra, notes 12-14 and accompanying text, apparently limits the federal "no compensation" rule, but state controls over activities within state waters are not affected.

29. Colin Nash, formerly of the Oceanic Institute, Hawaii, now with Kramer, Chin & Mays, Inc., a State of Washington consulting firm, observes: "I think Hawaii must lease its protected offshore areas carefully for aquaculture and prevent the ownership of a permit becoming a permanent asset of the development company with the state having little or no recourse over the company's liability for negligence. For example, I think the permit processes for the ocean ranching of salmonids in the Pacific Northwest and the territorial leases for the practice of cage culture in the Pacific Northwest leave much to be desired. This is a result of state agencies acting too generously with entrepreneurs and companies that desired quick and long-lasting agreements to their requests for state support of their aquaculture ventures, otherwise feigning to go elsewhere." Personal communication, July 1, 1980.
30. The validity of this "trade-off" has been recognized at law. In Brusco Towboat Co. et al. v. State of Oregon, Or. App. 567 P. 2d 1037 (1977), Aff. as Mod., Or. 589 P. 2d 712 (1978), the Oregon Court of Appeals stated, at 1045, "The payment of compensation serves the public interest by increasing the common wealth. Thus, through such compensation, the public derives benefit from leased submerged and submersible lands although it gives away their direct use."

31. H.R.S. Section 171-33(7).
32. H.R.S. Section 171-32. See H.R.S. Chapter 171, Part III. "Special Dispositions: Sales and Leases Permitted without Public Auction."
33. Hideto Kono, Director, State of Hawaii Department of Planning and Economic Development, "Foreword," Permits and Environmental Requirements for Aquaculture in Hawaii, supra, note 2, p. iv.
34. Aquaculture in the United States: Constraints and Opportunities, National Academy of Sciences (1978), p. 1.
35. John Donaldson, "On Becoming a Mariculturist," in Northwest Mariculture Laws, Oregon State University Sea Grant College Program (1975), p. 8. Donaldson notes sardonically, p. 9: "My last agency count was two city departments, four county groups, eight state agencies and four federal entities, each with the power to allow or disallow what you had in mind to do. That is sixteen unanimous yes votes. It is very much like being voted into a secret fraternity, one black ball and you are out."
36. Lewis Feldman, Effects of the Costs Imposed by the Regulatory Permit Process on California's Coastal Aquaculture Industry, Center for Coastal Marine Studies, University of California - Santa Cruz (1978), p. 26.
37. George Lockwood, "Some Causes and Consequences of Declining Innovation," An Address to the Third Annual Colloquium on Research and Development Policy, American Association for the Advancement of Science (June 21, 1978), p. 2.
38. Glude, supra, note 15, states: "Many potential fish farmers have given up rather than face the complication, challenges and long delays in getting numerous permits and licenses."
39. George Lockwood, "The Outlook for Mariculture in the United States," An Address to the World Mariculture Society, Honolulu, Hawaii, January 23, 1979, p. 2. Dr. Edward Scura, President, Aquatic Farms, Ltd., of Hawaii echoes this view. Personal interview, May, 1980.
40. Lockwood, supra, note 37, p. 2.
41. Robert L. Cranmer, Manager, Morgan Oyster Company, San Mateo, California, personal communication, May 30, 1980.
42. Feldman, supra, note 36, p. 80.
43. Id., pp. 78-79.

44. Id., p. 80.
45. Permits and Environmental Requirements for Aquaculture in Hawaii, supra, note 2, p. vi.
46. Id., p. iii.
47. Reporting George Lockwood's speech before the World Mariculture Society, Honolulu Advertiser reporter Barbara Hastings stated, "Hawaii's encouragement of aquaculture, on both the state and county levels, may make it the only state to spawn a diverse and viable fishfarming industry, according to a Mainland aquaculturist." Honolulu Advertiser, "Isle Support for Fishfarm Growth Cited," January 24, 1979.
48. Quoting the Honolulu Advertiser, Id.: "Richard Gibson, now with Amfac, but who headed the state's efforts to develop an aquaculture plan, explained why 'Hawaii is light years ahead in terms of planning and streamlining' the permit requirements.

"Right now, according to Gibson, an applicant for an aquafarm in Hawaii could need as few as a single permit, or as many as 15 'under the worst of circumstances.'

"In Alaska, on the other hand, it takes about 120 permits to open a salmon farm, according to Curt Kerns of the University of Alaska. 'Any one of the requirements are reasonable,' he added, 'but put all together, they're prohibitive.'"
49. In contrast, Bowden, supra, note 6, p. 6 describes the present regulatory system in California as "a mosaic laid down without a pattern." Elsewhere Bowden states, "For this reason many of these administrative programs (and all of them in aggregate), have an unforeseen, unintended, and undesirable effect on the development of an aquaculture industry." Bowden, Aquaculture Law and Policy in California, in press, p. 18.
50. See Section VI of this report.
51. The State Senate has twice passed legislation designating the Department of Agriculture as lead agency. The Ariyoshi Administration supports the Department of Land and Natural Resources as lead agency. A compromise is in effect at present, with no designated lead agency. Harry Whitten, "Aquaculture to Rival Tourism, Yim Predicts," Honolulu Star-Bulletin, March 13, 1980, p. E-4.
52. Honolulu Star Bulletin, "Land Panel Okays Seaweed Research" February 9, 1980. Gail Ishiyama, "Formulating a Mariculture

Policy for Hawaii: The Submerged Lands Leasing Issues," unpublished Master's Thesis, University of Washington (1980), pp. 45-50, discusses the Board's treatment of all Conservation District Use Applications for mariculture activities. The Brewer application has been the only application approved by the Board to date.

53. Glude, supra, note 15.
54. Rothwell, supra, note 20, states: "By analogy to cattle farming, sea farming will resemble a feed lot fattening operation rather than, say, pasture grazing. . . . Annual introduction of tens or hundreds of tons of feed per acre, coupled with the shading and current-diverting effects of enclosures, will significantly nutrify the seawater passing through the farm and may drastically alter the benthic environment below and down-current from the farming site. Benthic communities will be strongly modified and whole new vertebrate and invertebrate species will be recruited to the farm environs, resulting in a much richer and much changed biota from what existed before."
55. Rothwell, Id., suggests that guidelines contain specific language which accepts environmental change as an integral consequence of ocean farming. "If this is not done, it would be virtually impossible to induce any informed entrepreneur to operate within current environmental ground rules."
56. Jeffrey Zinn, "Energy in the Coastal Zone: A Question of Risk," Coastal Zone Management Journal (Vol. 7, No. 2-3-4, 1980), p. 129.
57. Donaldson, supra, note 35, p. 9.
58. Donaldson, Id., points out a classic example of conflicting regulations: "Have you ever tried to pour a concrete floor in a food processing building? FDA says make it smooth so it can be cleaned. The safety people say make it rough so the workers won't fall down."

An important example of agency conflict creating a serious bottleneck is cited by Bowden, "Marine Aquaculture in California: An Overview," supra, note 6, p. 11. The California State Department of Fish and Game is mandated to enhance and replenish populations of aquatic animals. The Department encourages aquaculture as an aid to achieve this goal. At the same time, the State Health Department wants no one to eat contaminated shellfish. Each goal is undebatably a public good. However, in practice, things have gone awry. "In order to advance this goal the Health Department requires shellfish growing waters to be certified as safe by its staff. Unfortunately the Health Department lacks the necessary staff

to test all but a few potential growing sites. And since this certification has not been delegated to another department, such as Fish and Game which regulates the actual growing of shellfish, few new growing areas have been tested in recent years. The result is that the policy of fostering aquaculture is being frustrated by the Health Department's water certification policy." Id.

59. The federal government has also begun the process of combined or joint agency action. The Federal Deepwater Port Act of 1975 provides the basic model. "The Coast Guard is the lead agency for granting a license to develop a deepwater port beyond U.S. territorial waters; it is mandated to solicit and receive the views of all other agencies with respect to applications for a deepwater port and to prepare the environmental impact statement." Aquaculture in the United States, supra, note 34, p. 92.

The 1978 Amendments to the Outer Continental Shelf Lands Act and the presently enacted OTEC bill follow this model. "Under the 1978 Amendments, primary responsibility for OCS supervision is given to the Secretary of the Interior, who is given increased responsibility to assure coordinated federal action at all stages in the OCS process. . . . Permits, licenses, and leasing requirements are to be coordinated to facilitate "one-stop" shopping by those involved in OCS activities." John Murphy, "OCS Development: A New Law and A New Beginning," Coastal Zone Management Journal (Vol. 7, No. 2-3-4, 1980), p. 309.

60. Glude, supra, note 15, states "Decisions should be made in the correct forum--one which considers all aspects of the proposal--not environmental effect alone. . . . In my view the logical forum is at the state level, by a panel or commission with multi-interest representation." Dr. Marvin Miura, President, Environmental Impact Study Corporation, Honolulu, suggests a single application and EIS procedure in which all concerned agencies review and "sign off" on the application in order to indicate approval. Dr. Miura believes this would eliminate the problem of one agency waiting upon another to grant its required permit. Personal interview (June, 1980).
61. This assertion is strongly made by both Taylor A. Pryor, President, Systemculture, Inc., (Kahuku Seafood Plantation), personal interview, (July, 1980), and by Richard Gibson, AMFAC Aquatech (July, 1980).
62. Permits and Environmental Requirements for Aquaculture in Hawaii, supra, note 2, p. 16. For example, Federal regulations prohibit the importation of claridoti, an Asian catfish, because of bad experience with their escape in Florida. Accordingly the Federal Government confiscated and killed a

shipment of Asian catfish worth approximately \$4,000 in Hawaii although Asian catfish have been an established population in Hawaii for 100 years. Clearly a variance was needed and procedures for obtaining variances should be investigated.

63. Id., p. 15.
64. John Corbin, Aquaculture Development Program, personal interview (October, 1980).
65. Arguably, for a small project or one involving cultivation of indigenous species, less environmental data may be required. James Maragos, U.S. Army Corps of Engineers, personal interview (October, 1980).
66. H.R.S. Chapter 171, Part V, "Lands for Agricultural Purposes."
67. Lockwood, supra, note 37, p. 6.
68. U.S. Senate Report, 96th Congress 2d Session, No. 96-660 (to accompany S. 1650, National Aquaculture Act of 1980), p. 6.
69. Lockwood, supra, note 37, p. 19.
70. John O. Flender and Richard Morse, The Role of New Technical Enterprises in the United States Economy (M.I.T. Development Foundation, Inc., 1978), noted in Lockwood, supra, note 37, p. 20.
71. Lockwood's Monterey Abalone Farms is a good example. Lockwood Reports "Ten individuals jointly invested \$250,000 of 'seed' capital for this risky undertaking. . . . In 1974, we began to scale-up our operations and increased our investment by an additional \$1,000,000. As before, this investment was supplied by individuals willing to risk part of their personal savings on this promising yet unproven venture. Although the profit potential was attractive, professional sources of venture capital were not interested in such a long-term project. Our company was entirely privately financed by a small group of local people with confidence in me and in our product." Lockwood, supra, note 37, p. 3.
72. H.R.S. Chapter 219, "Aquaculture Loan Program."
73. Feldman, supra, note 36, pp. 83-84.
74. Id., p. 83.
75. U.S. Senate Report No. 96-660, supra, note 67, p. 7.

76. William Brewer, Aquaculture Development Program, personal interview (August, 1980).
77. Staton, supra, note 25.
78. Staton, Id., states "Offshore operations both boat and diving are regulated by either the Longshoremens and Harbor Workers Act or the Jones Act. Both of these required coverages demand large premium deposits (ours is in excess of \$7,000.00 per year) and excessively high premiums of near \$60.00 per each \$100.00 of payroll."
79. Staton, Id., asserts that the high insurance premiums paid by California Marine Associates is "Primarily . . . due to the lack of rating experience by the insuring companies. They are literally scared to death of the possible ramifications."

Rothwell, supra, note 20, states: "Our informal discussions with an insurance underwriter suggests that an ocean farmer would be able to obtain crop insurance similar to that available to farmers on land, but due to lack of actuarial data the premiums would be very high. With experience, we are told, insurance premium rates will adjust to match actual loss rates."
80. P.A.D. Secretan, Director, The Aquacultural Insurance Services, Ltd. (London), personal communication (September 17, 1980). Mr. Secretan continues: "We have some significant statistical actuarial data, compiled over the years that, whilst by no means perfect, is broadly based enough to give us a great deal of guidance on where we are going. These statistics, and the educating experience of having covered [aquatic] farms and run into losses on them, mean that we are fairly well versed in negotiating terms and conditions which fairly represent the interests of both insured and Underwriters at fair premiums. . . . The aquacultural industry is not overcharged for the insurance."
81. Secretan, Id.
82. Rothwell, supra, note 20.
83. Interview with William A. Brewer, Department of Planning and Economic Development, regarding Anuenue contract arrangements, October 31, 1980.
84. Anthony J. Novotny, Fishery Research Biologist, Northwest and Alaska Fisheries Center, National Marine Fishery Service, NOAA, personal communication (September 3, 1980). Mr. Novotny has been involved in aquaculture projects or symposia in France, Ireland, Scotland, England, Mexico, Canada, and the United States. He concludes: "In all countries, in any environment

aquaculture at its best is a very risky business. . . . What then can we expect of any venture groups in marine aquaculture who must face investment costs, pioneering technology, risks of crop lost, sporadic markets and environmental and aesthetic restraints that would bring an elephant to its knees? Only the extreme optimists venture forth under these conditions." Id.

SECTION

4

IV. STATE MANAGEMENT OF OFFSHORE RESOURCES: POLICY ISSUES

A. INTRODUCTION

It is likely that new policies concerning the development of offshore waters will have to be adopted by the State if (1) legal obstacles and uncertainties are to be overcome; and (2) appropriate commercial use of the area is to occur. The State has already issued a number of policy statements committing Hawaii to the general goal of development of the offshore waters.¹ However, these goals and objectives do not appear to have established a resource allocation system that will insure that the overarching policy of development will in fact occur, or that it will occur in an orderly, rational manner which is in the best interests of the citizens of Hawaii.

Since extensive commercial development of the offshore area is still some years away, the State presently has an excellent opportunity to review existing policies and to evaluate the strengths and weaknesses of new policy options. Until action is taken by the State, research and development in Hawaiian waters may be slowed, large and small investors will be reluctant to become involved, and development will proceed on an erratic and uncertain path. In addition, inaction by the Legislature and State agencies may inadvertently hand the policy-making function to the courts. Such quiescence may eventually create problems later when the Legislature seeks to "modify property definitions developed by the courts, which are institutionally limited in the alternatives that they can consider and must decide cases within the confines of litigants advancing their own interests."²

Such an eventuality is hardly desirable from a policy or a legal point of view. The formulation of an "Ocean Management Plan," a process now underway under the general direction of the Hawaii Coastal Zone Management Program, should result in an integrated

management program for the State, greatly lessening the likelihood or need for judicial pinch-hitting. In the context of that Plan, the study herein only surveys broad questions of management approach to commercial development of offshore resources.

The establishment of new policy essentially involves the following steps:

1. Stating the problem, or acknowledging that a problem is likely to occur;
2. Developing policy goals and objectives that will provide direction in helping solve the problem;
3. Researching and evaluating various management schemes for their potential effectiveness in promoting policy goals; and
4. Choosing, designing, and implementing a management system that initiates and supports activities consistent with the policy goals.³

The remainder of this section will raise a number of important issues which the policy maker should consider in moving through these steps in order to have a more informed judgment about step four, choosing, designing and implementing an effective management system.

B. PROBLEM IDENTIFICATION

Development of fixed-location ocean activities is likely to create a number of problems whose definition will vary according to one's perspective. Acknowledging different perspectives is important because defining the problem differently leads one to different policy goals and consequently to the favoring of different kinds of management systems.

Perspective depends largely on how the ocean user sees his present or future interests in ocean space. One way to identify the range of problems likely to emerge if ocean areas are reserved for fixed-location ocean uses such as mariculture and OTEC is thus

to identify the current user groups of offshore waters and each of their particular interests in ocean space. The following list identifies the major user groups:

1. Commercial fishermen
2. Recreational fishermen
3. Surfers
4. Beachgoers, sunbathers, swimmers
5. Commercial shippers
6. Recreational boaters
7. Divers (although the activities of commercial and recreational divers may be different)
8. Marine researchers
9. Sightseers
10. Military⁴

In addition, special interest groups such as native Hawaiians, environmentalists, and the tourist industry may have concerns other than those addressed by the groups listed above. Each of these groups can be expected to strongly represent their positions in any discussion over the deployment of fixed-location ocean activities.

While identifying the major user groups and interest groups is a fairly easy task, several factors combine to make the response of each group difficult to anticipate. These factors include:

1. Multiple impacts
2. Proximity to site
3. Multiple group loyalties
4. Unanticipated outcomes⁵

1. Multiple Impacts

Each new fixed-location activity is likely to have a variety of impacts on any user group. When trying to anticipate how a group will respond to a new activity, both positive and negative impacts of the activity will have to be weighed. For example, a commercial fisherman may find an OTEC facility interfering with his

right-of-way on the open seas, forcing him to alter his course. On the positive side, the OTEC site may serve to attract fish, due to the concentrated upwellings of nutrients created by the OTEC operation or to its fixed location. The fisherman's response will depend upon whether he foresees a net positive or net negative impact, or put another way, upon how he weighs costs and benefits to himself.

2. Proximity to Site

Present ocean user groups will react to fixed-location activities according to where such new activities are actually located. The definition of the problem will be largely site-specific. As long as an activity is located outside one's spatial sphere of interest, no problem will be perceived to exist. If OTEC platforms are placed outside prime fishing areas, commercial fishermen may not see them as creating any kind of problem. However, another concern may be that OTEC platforms will be hazardous to navigation, especially at night, and may require special lighting.

Visual impacts of new offshore activities is also likely to be a factor for property owners, beachgoers, and other shoreline users. If the new activities are not highly visible, resistance to them will be lessened.

3. Multiple Group Loyalties

The response of some persons to new offshore activities will be largely determined by association and identification with one major user-group. However, many others will have an interest in more than one of several potentially conflicting activities, and their responses will change or be modified as they consider their multiple roles. For example, a local fisherman who enjoys the ocean primarily as a recreational resource will see the development of fixed-location activities far differently than a director of a company involved in the research of OTEC. However, the company's director may also be a fisherman, while the fisherman may also support the idea of clean, renewable energy that will lessen

Hawaii's dependence on imported oil. Multiple group memberships may produce more agreement on problem identification than is initially premised.

4. Unanticipated Outcomes

A final factor which makes user-group responses hard to predict is the inability of the groups themselves, scientists, developers, or policy analysts to anticipate all the important features or outcomes of deploying the new fixed-location ocean activities. Unanticipated outcomes could produce positive or negative impacts that will alter initial perceptions. This is a particularly relevant factor when considering newly developed, rapidly changing fields such as OTEC, mariculture and other fixed-location activities.

Despite the inability to forecast precisely or to predict the full range and source of problems relating to fixed-location activities, it is still possible to list a number of problems that have already surfaced or are likely to be raised in the future. These include:

1. The development of fixed-location ocean activities may interfere with access to the beach and offshore areas.⁶
2. Increased use of offshore waters may interfere with recreational boating.⁷
3. Fixed-location ocean activities may be considered unsightly and thus interfere with aesthetic enjoyment of the shore.⁸
4. The development of fixed-location ocean activities may cause significant environmental problems.⁹

To a certain extent, these problems have already been anticipated by existing state (and federal) policies. For example, an applicant wanting to locate an activity in offshore waters would presently have to apply for a Conservation District Use Permit from

DLNR, and would have to satisfy environmental protection objectives. The Hawaii Coastal Zone Management Program has established procedures which encourage multiple use of the coastal area while minimizing user conflicts.¹⁰ The Hawaii State Plan also mandates protection of the environment, especially the coastal zone.¹¹ Behind all these policies is an underlying objective of orderly development and use of coastal resources.

Thus, the State has already established a policy framework which addresses the potential problems noted above. Any future policies or laws enacted by the State regarding the use of offshore waters will have to be compatible with these existing policies.

There are other problems surrounding the development of offshore activities, however, which present laws and policies do not adequately address. One problem, as perceived by potential commercial operators, and discussed in more detail in Section III, is the absence of any guarantee of property rights in ocean waters. Fixed-location activities such as OTEC and mariculture enterprises require some degree of exclusive use of an area. In addition, these activities often require long-term use of an area. Thus, a fifth problem may be stated:

5. Fixed-location ocean activities require the adoption of a new offshore legal regime to protect private property rights within a traditionally public domain resource area.¹²

However, even if rights were clearly established, the ocean environment protected, and order prevailed, there would still remain the question: Who benefits?¹³ If extensive private use of offshore waters, which have historically been public areas, yields benefits to only a small segment of the population, serious questions are raised. Broad community concern, likely to be spearheaded by recreational and native Hawaiian groups, will be certain. This concern leads to a sixth problem:

6. Development of offshore waters for private enterprise may yield significant direct benefits to only a small segment of the population.

C. GOALS AND OBJECTIVES

If a new resource management system for offshore waters is adopted, the policy goals and objectives that guide it will have to address the problems noted above. In particular, the lack of property rights and the question of distribution of benefits will likely be key issues since the State has previously addressed, to some extent, the problems of environmental quality and conflicting uses.

In developing goals and objectives two other important policy questions must also be weighed. These are:

1. Should the amount and types of activities in offshore waters be limited and how?
2. Who should be encouraged to participate in the development of fixed-location activities?

Given current policies and programs, development of one fixed-location activity, OTEC, will definitely occur in State waters. The projected benefits of such development are many. Development of OTEC facilities is expected to help Hawaii become less dependent on imported energy supplies, strengthen Hawaii's reputation as a center for R & D work in alternative energy sources, provide Hawaii with a relatively clean source of power, lessen the demands for new fossil-fuel power plants, and serve as fish attraction devices for the benefit of commercial fishermen.¹⁴

Development of mariculture activities could bring additional jobs to the State, eventually provide a major source of locally grown, low-cost seafood, help diversify the economy, create additional revenue for the State, aid in preserving rural life-styles, and attract business and population to neighbor island communities.¹⁵

While such benefits of fixed-location activities may be stated, it does not necessarily follow that the State should embark on a

policy of maximum development. Goal options range from maximum utilization to no utilization. The maximum development option is limited by the natural carrying capacity of the resource (the offshore area) and by existing state laws and policies.

Sufficient environmental impact data from mariculture and OTEC operations has yet to be collected,¹⁶ and baseline studies of the offshore environment have yet to be undertaken before the capacity of the resource to support the new activities can be determined. Whatever policy goals are chosen, they must take into account this uncertainty, for it is likely to be several years before adequate data is available.

Policy options are also limited by the Hawaii State Plan and the Coastal Zone Management Program. Both acknowledge that there are many valid claims to the use of offshore waters, and mandate a multiple-use approach for the coastal zone and the marine environment. Consequently, potential policy options regarding the scope of development of fixed-location ocean activities are limited to those options which reflect a multiple-use approach and which would protect existing uses as well as encourage new development.

There remains the question of who is to participate in the development of the new activities. Policy goals need to be established concerning the appropriate combination of local and out-of-state operators, and the optimum balance between small-scale and large-scale operators. Goal options range from favoring large-scale, out-of-state participants to focusing on local, small-scale operators is possible. Existing state policies generally promote economic activities that allow for a mixture of these various levels of participants. For example, aquaculture activities, including mariculture, are being promoted as a way of increasing and diversifying employment opportunities for local residents, particularly those on the neighbor islands, and at the same time, attracting large-scale, out-of-state investors.¹⁷ This policy has already produced a wide diversity of participants for land-based aquaculture operations throughout the state.¹⁸ The involvement of large

corporations, such as Amfac and the Coca-Cola Co., in the local aquaculture picture has been encouraged to help guarantee that aquaculture becomes an important segment of Hawaii's economy.¹⁹

Corporations can help

"[t]o increase public awareness of the mariculture industry through publications and marketing efforts, and 'big business' could create a political constituency to protect and possibly expand mariculturists' rights within the framework of interest groups competing for government attention."²⁰

While some may fear that the involvement of large corporations in the aquaculture business could limit the opportunities available to small-scale, local operators, this does not appear to have happened. In fact, of the 20 aquaculture operations currently in the State, 15 are under five acres, and most are run by small, local firms.²¹

A similar mix can be encouraged by appropriate economic programs in mariculture development, although it appears unlikely that large corporations will be taking the lead in such development. Open sea mariculture will simply remain too risky for the next decade or longer to interest very large-scale operators. Innovative entrepreneurs will pioneer the industry, if it develops at all.

OTEC development, in contrast, because of its requirements of scale, advanced technology and high capitalization, will necessarily be limited to a small range of participants, if not to a single consortium. The major policy options are between local and out-of-state participants. Currently, both kinds of investors are involved in on-going R & D work.²² A policy which would attempt to favor local participants may create more direct economic benefits to the people of Hawaii, but outside operators can commit considerably more resources to the effort, particularly in terms of technological know-how and capital. Thus the R & D work is likely to proceed faster if a policy favoring out-of-state participants is

pursued. At the same time, a policy oriented only to out-of-state companies would appear contrary to the goals of the State Plan and would fail to take advantage of what expertise and resources local firms could contribute. The State's leverage on this issue is not great, since much of the R & D will be federally funded, and OTEC development is likely to be handled through an international consortium arrangement. The present policy of the State is to support any consortium which proposes to locate a pilot plant in Hawaii.

To summarize, the range of goals and objectives available to policy-makers concerning the development of new offshore activities is fairly well-defined. Experience in aquaculture, on-going OTEC activities, and previous policy statements, such as those found in the State Plan and the Coastal Zone Management Program, suggest that certain policy goals have already been established, and that others will be favored because of the State's experience with them. Within the parameters thus already set, certain policy goals emerge as priorities: establishing an orderly system to determine property rights and to allocate resources, promoting multiple-use of ocean areas, participation by a wide range of entrepreneurs, and development of clean, relatively non-polluting activities.

D. ALTERNATIVE RESOURCE MANAGEMENT SYSTEMS

This section considers three general allocation models for managing the use of ocean resources. Each is analyzed from the perspective of satisfying the general policy goals summarized above. Generally, "two allocative mechanisms can be hypothesized as the polar opposites of the spectrum of allocation--a system involving grants of private property rights in the resource, and a system of purely public resource management . . . " ²³ A third model incorporates a mixture of public and private policies in the management of natural resources. Policy analysts have identified specific benefits and problems, culminating in distinct patterns of resource utilization, resulting from choices made by policy-makers among these three resource management approaches. ²⁴

One significant finding, explained more fully below, is that neither extreme of public or private resource management is likely to achieve the policy goals noted as relevant in Hawaii. Neither extreme would be legally nor politically acceptable given current Hawaii statutes and policy. Instead, "the creative use of an intermediate approach--one which overlays private ownership with public controls--will more adequately allow for efficient resource use,"²⁵ and be more compatible with state policy and the concerns of the general public.

1. Public Research, Development, and Production of Offshore Resources

Under this resource management system, the State would retain complete rights to offshore resources, including the water column and surface waters, and own and operate all production facilities such as OTEC, mariculture, fish aggregation buoys, and any other fixed-location activities. All income derived from the exploitation of the offshore area would accrue to the State. The rationale for government development rests on the public trust status of the ocean resources. In addition, public ownership and operation is often advocated when preservation of the resource is the single most important goal (as with the National Park lands) or when the development of the resource is seen as too large and/or too risky for private enterprise (as with the Tennessee Valley Authority Project).

Such a system would permit the State, as the sole owner of fixed-location ocean activities, to have complete control over the development process. This would make siting problems less difficult since only one owner would be involved. Conflicts among competing firms for the same space would be eliminated. In addition, the costs of monitoring and enforcing environmental standards would be reduced since, "the locus of responsibility for an adverse effect may be fixed more readily than where there are a number of operators."²⁶ Conservation goals and environmental protection may also be enhanced under a public management system since decision-making

is not tied to organizational wealth. A decision-maker may be more willing "to take into account external costs involved in any given option and thereby promote efficiency from the vantage point of the community" ²⁷ However, when adequate regulatory controls are imposed at the start, these externalities may be of the same magnitude regardless of government control. ²⁸

Certain considerations, however, argue against a system of public ownership and production. Unlike the goal of the National Park System, the primary goal of the State is not the preservation of offshore resources. As the preceding Goals and Objectives section noted, the State is publicly committed to the development of OTEC, has already placed fish aggregation buoys at sea, and is encouraging the study of mariculture operations. While a large portion of offshore waters will undoubtedly be placed "off-limits" to development, preservation is only one goal for this area.

In addition, private enterprise apparently does not view the development of fixed-location activities as too large or too risky an undertaking. Private firms are already involved in the R & D work, and have expressed interest in investing in commercial operations. Thus, the two traditional arguments for public resource management do not apply to the use of offshore waters of Hawaii.

Finally, under this system, the private sector would be unlikely to commit many resources to the development and production of fixed-location activities if there is no future of commercial benefits. The State (with some assistance from the federal government) would then have to carry a much larger share of the financial burden, raising the possibility of significant cut-backs in other programs.

2. Private Ownership and Production

A pure system of private ownership and production for activities in state marine waters is neither practical nor legal. In such a system, the State would (1) sell offshore ocean space and then, (2) provide no financial support toward the development of

fixed-location activities. Such alienation of public ocean resources is not within the power of the Legislature or of State agencies due to public trust doctrine legal restraints, and is therefore not a meaningful option. Moreover, the State has already committed itself to assistance in the R & D phase of OTEC and mariculture development.

A modified scenario which might pass baseline tests of legality and utility would be for the State to grant long-term leases, hold back few offshore areas for preservation, relax environmental quality controls now governing the use of marine waters, and restrict its own R & D commitments. Such a plan might generate considerable development, but offshore enterprise would be dominated by a few large corporations which had extensive financial and technological resources. The multiplier-effect might bring considerable economic benefit to the State.

Such benefit would be negated, however, by the fact that the environmental costs from such a system would be unacceptably high, user conflicts would be endemic, and public opposition would be certain. If anything, the clear trend in resource management in the State of Hawaii during the past decade has been toward increasing environmental protection and more comprehensive planning. While the potential economic benefits of offshore development might stimulate some redefinition of environmental regulation, it is difficult to see any real viability in even the "modified" private ownership and production scenario. This model does not meet the State's present policy goal, and it is politically untenable, given its necessary conflicts with powerful interest groups, such as the tourism industry, local commercial and sport fishermen, and recreational ocean users.

3. Public/Private Ownership and Development

Along the spectrum of resource management models from purely public to purely private is a vast middle ground where the public and private dimensions overlap. This area is familiar because it

represents the policy framework used in making most land-use decisions. The concept of public/private policy combinations may be applied to (1) the ownership of offshore resources, and (2) the research and development of the fixed-location activities.

The State, as owner and trustee of state marine waters and the resources therein, has a number of options for allocating and controlling the use of state marine waters. Conditions regarding the use, fees, environmental safeguards, and license and/or lease renewal and revocation procedures could be established to suit the type of activity. Preferential treatment to encourage certain classifications of operators could be exercised. In mariculture operations, for example, one observer recommends that,

"[a]t least one half of all leases granted for mariculture purposes should be for small-scale or eleemosynary operators. This is needed to create a healthy balance of both large and small-scale development in mariculture."²⁹

California has attached eligibility requirements to its mariculture operations, limiting applicants to citizens of the state and corporations organized under California laws.³⁰

The State could also elect to broaden the number of potential participants in mariculture operations by stipulating that extensive environmental impact statements or ocean floor surveys are not required where the lessee anticipates gross revenues less than \$150,000 and requires less than one acre of ocean space. These could be handled by an administrative lease which would have a shorter term. If small businesses are required to shoulder these expenses, which could easily run into six figures or more, mariculture could be limited to only the larger firms. Factors such as proposed location, amount of state marine waters required, competing uses, native or non-indigenous species should also be considered by the State in determining how much environmental data is necessary and how extensive surveys should be.

Some type of zoning or overall management plan could also be an ingredient in a public/private resource system. Presently all offshore waters are in the State's Conservation District; however, there is no subzoning and management plan which recognizes the diverse character of the resource and its multi-use potential. Such a plan has been mandated by the State Legislature,³¹ and would help maximize utilization, reduce user conflicts, and prevent development of the area from occurring on a case-by-case basis without any reference to the overall pattern of use. Such piecemeal development on land was one factor contributing to the development of comprehensive land-use plans such as the State Land Use Plan and the Hawaii Coastal Zone Management Program.

Public/private policy combinations can be significant in the technical development of fixed-location activities, as well as in the determination of ownership and user-rights. When substantial technological or market risks exist, government often enters the R & D phase in order to reduce the uncertainties for any given business. Government can take the lead initially, then give private interests the right to commercialize the resource. This policy would allow a greater number of firms to consider entering the field. Where R & D work is entirely private,

"[o]nly a few larger firms, or joint ventures of smaller ones, with sufficient capital and diverse activities over which to distribute the risks of non-discovery would be able to bid."³²

In addition, when the R & D work is expedited by government funding, smaller firms may be able to enter the field because they will have greater access to necessary technical information, and once uncertainty as to the value of the resource has been reduced, greater access to capital.³³

The public/private model thus provides the greatest continuity with present State policy goal among the three management systems here discussed. Its flexibility and its retention of public control over development would make the resolution of user-conflict,

or the mitigation of such conflicts to an acceptable level, much more feasible. Orderly development of state marine waters could proceed with a likelihood of general public support.

FOOTNOTES

1. For example, The Hawaii State Plan, State Department of Planning and Economic Development (Honolulu: 1978), signed into law in 1978, requires the State to "accelerate research and development of new energy related industries based on wind, solar, ocean and underground resources and solid waste," and to "encourage investment and employment economic activities that have the potential for growth such as diversified agriculture, aquaculture, apparel and textile manufacturing, and energy and marine-related industries," p. 29.

For OTEC specifically, Governor George R. Ariyoshi has stated, "We in Hawaii are committed to the development of OTEC . . . our State will counsel and cooperate with any consortium which proposes Hawaii as a pilot-plant site." George R. Ariyoshi, "The Future of OTEC in Hawaii and the Nation," An Address to Ocean Energy 7, Washington, D.C., June 2, 1980, p. 3.

The State Department of Planning and Economic Development has adopted the goal of reducing Hawaii's dependence on imported oil by "establishing an OTEC industry which will be environmentally sound, socially acceptable, and economically beneficial to the people of Hawaii." State of Hawaii Ocean Thermal Energy Conversion Program, 1980-1985, Department of Planning and Economic Development (Honolulu: 1980), p. 2.

The development of mariculture activities is presently guided by the policies and objectives of the Aquaculture Planning Program, which include the identification of new economic opportunities in aquaculture, and the goal of providing "funds for testing the applicability of using aquaculture technologies as components in ocean thermal energy conversion (OTEC)," Aquaculture Development for Hawaii: Assessments and Recommendations, Aquaculture Planning Program, Center for Science Policy and Technology Assessment, Honolulu: Department of Planning and Economic Development (Honolulu: 1978), p. 148. R & D work on mariculture operations unassociated with OTEC facilities is also being pursued. See "Mariculture: An Issue Paper (Draft Copy)," Aquaculture Development Program, Department of Planning and Economic Development (Honolulu: 1980).

2. Sho Sato and Thomas D. Crocker, "Property Rights to Geothermal Resources, Ecology Law Quarterly, Vol. 6:48 (1977), p. 495.
3. Edith Stokey and Richard Zeckhauser, A Primer for Policy Analysis (New York: W. W. Norton and Co., Inc., 1978).
4. George Kent, "Hawaii Coastal Zone Management Technical Supplement No. 10," Department of Planning and Economic Development,

(Honolulu: 1975), pp.2-3, which identifies those groups in Nos. 1-10. A similar list may be found in "Mariculture: An Issue Paper (Draft Copy)," supra, note 1, p. 3.

5. These four factors were culled from the extensive literature relating to coastal zone development and land and water use conflicts. Many of these studies have attempted to plot matrices which show existing uses along one axis and existing uses and/or potential uses along the other. Conflict and/or compatibility is then noted by appropriate notations at each of the intersecting points. However, the number of exceptions and conditions to such matrices, created by the oversimplification inherent in a two-dimensional representation, are so significant and numerous that a more realistic appraisal is organized around these four conditions of use which account for most conflict situations.
6. "Mariculture: An Issue Paper (Draft Copy)," supra, note 1, p. 5; Gail Ishimoto, "Formulating a Mariculture Policy for Hawaii: The Submerged Lands Leasing Issues," unpublished Master's Thesis, University of Washington, (1980), p. 61.
7. Gail Ishimoto, "Formulating a Mariculture Policy for Hawaii: The Submerged Lands Leasing Issues," unpublished Master's Thesis, University of Washington (1980), p. 21.
8. Id.
9. Id.
10. Hawaii Coastal Zone Management Program and Final Environmental Impact Statement, Office 7 Coastal Zone Management, Department of Commerce (Washington, D.C.) and the Department of Planning and Economic Development (Honolulu), n.d.
11. "The Hawaii State Plan," supra, note 1.
12. Ishimoto, supra, note 7, p. 61; "Mariculture: An Issue Paper (Draft Copy)," supra, note 1; "OTEC for Oahu," Ad Hoc Committee on the Advancement of OTEC for Hawaii, Department of Planning and Economic Development (Honolulu: 1980), pp. 31-32.
13. George Kent, "Dominance in Fishing," Journal of Peace Research, Vol. 13:1 (1976), p. 35.
14. "OTEC for Oahu," supra, note 12, pp. 4-5.
15. Ishimoto, supra, note 7, p. 6.
16. "OTEC for Oahu," supra, note 12, pp. 27-9; "Mariculture: An Issue Paper (Draft Copy)," supra, note 1, p. 4.

17. Aquaculture Development for Hawaii: Assessments and Recommendations; supra, note 1, p. 132.
18. "The Outlook for Aquaculture," Economic Indications, First Hawaiian Bank (Honolulu: June, 1980), p. 1.
19. Id.
20. Ishimoto, supra, note 7, p. 56.
21. "The Outlook for Aquaculture," supra, note 18, p. 1.
22. "State of Hawaii Ocean Thermal Energy Conversion Program, 1980-1985," supra, note 1, (no page numbers) about page 4.
23. Bert Slonim, "Coastal Zone Resource Allocation: Some Legal and Economic Considerations," Sea Grant Law Journal, Vol. 1, No. 1, 1976, p. 369.
24. Slonim, supra, note 23, reviews the management of public lands and the broadcast spectrum and draws conclusions about the pattern of costs and benefits derived from the management of these two resources. Zoning, leasing, licensing and easement procedures are compared in Orlando E. Delogu, "Land Use Control Principles Applied to Offshore Coastal Waters," Kentucky Law Journal, Vol. 59, No. 3 (1971), p. 606. Sato and Crocker, supra, note 2, analyze several allocation regimes ranging from public to private.
25. Slonim, supra, note 23, p. 369.
26. Sato and Crocker, supra, note 2, p. 501.
27. Id.
28. Ishimoto, supra, note 7, p. 83.
29. Sato and Crocker, supra, note 2, p. 498.
30. Sally Owen, "The Response of the Legal System to Technological Innovation in Aquaculture: A Comparative Study of Mariculture Legislation in California, Florida and Maine," Coastal Zone Management Journal, Vol. 4, No. 3 (1978), p. 274.
31. House Reso. 1737, State of Hawaii (1979).
32. Sato and Crocker, supra, note 2, p. 505.
33. Id.

SECTION

5

V. STATE AUTHORITY OVER OFFSHORE RESOURCES:
THE LEGAL ISSUES

A. STATE OWNERSHIP OF OFFSHORE RESOURCES

1. The Historical Background

Q: Does the State have ownership rights in its offshore waters within state boundaries?

A: Initially, the dispute between federal and state claims of jurisdiction over the marginal sea was resolved by the U.S. Supreme Court in favor of the federal government. Subsequently, Congress passed the Submerged lands Act (SLA) which restored to the states the right to control their offshore resources within state boundaries.

Coastal states have asserted proprietary interests in the marginal sea since their first declarations of self-sovereignty in 1776.¹ Grants of seabeds for oystering in fact antedate the War of Independence.² Until the third decade of the 20th Century, State claims to title over offshore areas were not challenged, but were in fact fully recognized by the federal government. Fourteen times between 1847 and 1941 federal agencies sought and received deeds from various states for portions of their submerged lands "lying outside the inland waters and within the three-mile belt."³

States historically exercised exclusive control over fishing in navigable waters within state boundaries, based upon proprietary rights affirmed by federal courts.⁴ Congressional policy clearly was to accept state ownership and jurisdiction over offshore resources. A United States House of Representative Report in 1953 reviewed various congressional recognitions of constitutional sea boundaries accorded to states upon admission into statehood, and concluded that: "At the time of these actions by the Congress it was the universal belief that the States owned the beds of all navigable waters within their tidal jurisdiction, whether inland or not."⁵

Soon after oil and mineral deposits were discovered in offshore locations, and means to extract these resources became practical, coastal states asserted rights to regulate and to profit from offshore resource exploitation. Louisiana leased submerged lands more than three leagues from its coastline as early as 1920.⁶ California initiated leasing of substantial portions of its marginal sea for oil, gas, and mineral development in 1921. Texas followed in 1926. Other states, including Washington, Florida, Mississippi, North Carolina, and Maryland made leases for like purposes.⁷

State authority to lease offshore oil and mineral rights was relied upon by private industry and accepted by federal officials throughout the 1920's.⁸ While there was no definitive judicial statement upholding this authority, the presumption in favor of it was strong enough that extensive offshore resource development programs became established in several states. Large public and private capital outlays underwrote the construction of facilities and improvements in the marginal sea to accommodate the new ocean uses. Many state services were dependent upon public revenues generated by these offshore activities.⁹

These facts notwithstanding, controversy and litigation over state claims to ownership of offshore submerged lands arose in the 1930's. As the extent and value of offshore resources became more clear, the federal government moved to contest the states' claims. In 1945, the U.S. Attorney General brought suit in the United States Supreme Court, which had original jurisdiction in the matter, against the state of California. The federal government sought a decree declaring the rights of the United States over submerged lands from low water mark to three miles offshore as against California, and "enjoining California and persons claiming under it from continuing to trespass upon the area in violation of the rights of the United States."¹⁰

This action directly challenged the long-standing assumptions which had governed federal-state relations in this area.¹¹ A train of Supreme Court decisions beginning with Martin v. Waddell¹² in 1842 had suggested strongly that state sovereignty included off-shore areas to the limits of state boundaries. In Martin the Court had ruled that land under tide waters in Raritan Bay, New Jersey, belonged to the State of New Jersey as an incident of state sovereignty. In Pollard's Lessee v. Hagan (1845)¹³ the Court had declared that the Constitution itself reserved ownership of inland navigable waters, and submerged lands lying between the high and low water marks, to the states.¹⁴ This ruling applied to all new states as well, for each new state was admitted to the Union on an "equal footing" with the original thirteen states.¹⁵

The Pollard holding had been reaffirmed many times.¹⁶ Some later rulings appeared to have extended "the Pollard rule," as it came to be known. In Shively v. Bowlby (1893),¹⁷ for example, the Court had stated that upon admission to the Union, "title in the lands below high water mark of navigable waters passed to the state, and could not be granted away by the Congress of the United States."¹⁸ The Court in Port of Seattle v. O & W Railroad Co. (1921)¹⁹ had stated emphatically,

"The right of the United States in the navigable waters within the several states is limited to the control thereof for purposes of navigation. Subject to that right Washington became, upon its organization as a state, the owner of the navigable waters within its boundaries and of the land under the same . . . The character of the state's ownership in the land and in the waters is the full proprietary right."²⁰

Now, in U.S. v. California (1947),²¹ the federal government argued against these precedents declaring that the federal government had retained all rights over the marginal sea as appurtenances of national sovereignty, and that it had never bestowed these rights upon the states. Further, the Government declared that the

rationale in Pollard was not applicable to the marginal sea, since ownership of offshore water areas was not a necessary incident of the state sovereignty contemplated by the "equal footing" clause, any more than was ownership of uplands, which clearly did not come under this clause.²²

The state of California in opposition asserted its right and claim on the basis of its original 1849 Constitution, which set the state's ocean boundary at three English miles from the shore, and the Enabling Act admitting California to the Union, which ratified the territorial boundary thus defined and which admitted California on an equal footing with the original states.²³ The state argued that the Pollard rule did apply, and that California should be recognized as the owner and trustee for its citizens of the offshore submerged lands, just as it was the owner and trustee of the submerged lands between high and low water marks.²⁴

The Supreme Court accepted the federal argument that the Pollard ruling could not be extended to the marginal sea. The Court found that only the federal government was competent to exercise proper jurisdiction over the open sea, since a "state is not equipped in our constitutional system with the powers or the facilities for exercising the responsibilities which would be concomitant with the dominion it seeks."²⁵

The Court judged matters of peace, national security, world commerce and international relations to be necessarily exclusive responsibilities of the federal government, stating: "Not only has acquisition, as it were, of the three-mile belt been accomplished by the National Government, but protection and control of it has been and is a function of national external sovereignty . . . whatever any nation does in the open sea, which detracts from its common usefulness to nations, or which another nation may charge detracts from it, is a question for consideration among nations as such, and not their separate government units."²⁶ The sovereignty rationale developed by the Court in Pollard was thus

turned against the state position.²⁷ The Court held that since national interests took precedence in the marginal sea, "the Federal Government rather than the state has paramount rights in and power over that belt, an incident of which is full dominion over the resources of the soil under that water area, including oil."²⁸

The Court re-affirmed this ruling in U.S. v. Louisiana²⁹ and U.S. v. Texas,³⁰ both decided in 1950. The Court in these related cases rejected the argument that "the interests in the marginal sea may be chopped up, the states being granted the economic ones and the Federal Government keeping the political ones."³¹ Rather, the Court held,

"once low-water mark is passed the international domain is reached. Property rights must then be so subordinated to political rights as in substance to coalesce and unite in the national sovereign."³²

The California, Louisiana and Texas rulings have given rise to litigation which continues to the present.³³ The rulings also raised a hailstorm of protest in Congress. In 1946 Congress had passed a bill to quitclaim all federal marginal sea rights to the states; this bill was vetoed by President Truman. Congress passed a second quitclaim measure in 1952 which was again vetoed by President Truman.³⁴ Congress passed new legislation in 1953 which President Eisenhower, a supporter of state control of the marginal sea,³⁵ signed into law as the Submerged Lands Act (SLA).³⁶

This legislation is now the basis for state authority over offshore resources. The Submerged Lands Act restored to the states the right to control economic development of submerged lands within state ocean boundaries.³⁷ Congress declared this to be a matter of equity, for "it would be unconscionable to take the oil away from the States after they had been solely responsible for bringing it into the public use."³⁸

Justice aside, Congress was highly concerned about the orderly development and utilization of offshore resources.³⁹ A principal

purpose of the SLA was to resolve the "vexatious and interminable litigation" attendant upon the Supreme Court decisions.⁴⁰ The SLA was intended not only to stabilize the legal basis for further development,⁴¹ but also to place the government unit Congress felt most competent to expedite such further development, the states, clearly in charge.⁴² In sum, Congress wished no further delay in offshore oil leasing and production, and therefore relinquished its interests in the submerged lands beneath the marginal seas to the various states.⁴³ These considerations become particularly meaningful when interpreting how the SLA applies to economic development of state marine waters, rather than specifically of offshore submerged lands.

Congress also passed in 1953 the Outer Continental Shelf Lands Act (OCSLA).⁴⁴ Taken together, the SLA and the OCSLA apportion control of all offshore submerged lands within the jurisdiction of the United States. Within state boundaries, the states exercise primary authority; beyond state boundaries, the federal government exercises such authority.

The passage of these Acts, however, did not end debate on offshore ownership and control. As one commentator has stated: "This decision whereby the States 'own' the territorial sea and the federal government 'owns' the area to seaward is no more tidy than the boundary is visible. Each sovereign has acknowledged interests in the zone of the other."⁴⁵ Coastal states themselves continued to press their claims on two fronts: (1) the location of the outer boundary of state jurisdiction under the SLA, and (2) the states' right despite OCSLA to exercise authority seaward to the limits of the jurisdiction of the United States.

The claims of several gulf states concerning the location of state boundaries were settled in U.S. v. Louisiana (1960).⁴⁶ The Supreme Court confirmed the claims of Texas and Florida to title and control over territorial seas extending out from shore three marine leagues, but denied the extended sea claims of the other

gulf states, fixing the offshore boundaries of these states at three geographical miles. The Supreme Court held similarly against the claim of California in U.S. v. California (1966),⁴⁷ fixing California's boundary at three geographical miles and denying the use of offshore islands as baseline points for calculating this boundary.

In U.S. v. Maine (1975)⁴⁸ the Supreme Court ruled that the Atlantic Coast states could not exercise leasing authority beyond the three-mile state ocean boundaries. The Court re-affirmed its earlier holdings declaring paramount federal authority over the marginal sea, and ruled that Congress in passing both an SLA and an OCSLA clearly intended to grant to the states proprietary rights in submerged lands only to the extent of their state boundaries. As a result of this decision, regardless of what territorial sea boundary, exclusive economic zone boundaries, or other jurisdictional boundaries the federal government might declare for purposes of national policy, states may exercise authority beyond state boundaries only within very circumscribed bounds set by court rulings on the police powers of the State⁴⁹ and by specific statutes enacted by Congress to accommodate state interests.⁵⁰

One state-federal boundary dispute which remains unresolved is the state of Hawaii's claim that channel waters between the Hawaiian islands are inland waters and therefore fall within State jurisdiction, regardless of distance from island shores. This dispute is discussed more fully in subsection (B)(4), below.

FOOTNOTES

1. Many of the American colonies had enacted laws relating to fish and/or shellfish activities prior to the American Revolution. These laws became enforceable state statutes following the Declaration of Independence. The original states continued to exercise general control over navigable waters after the adoption of the U.S. Constitution, as before. The United States Supreme Court in Martin v. Waddell (1842), 41 U.S. (16 Pet.) 367, 410, recognized the legitimacy of this state authority, at least as far as tidelands were concerned: "When the revolution took place the people of each state became themselves sovereign; and in that character hold the absolute right to all their navigable waters and the soils under them for their common use, subject only to the rights since surrendered by the Constitution to the general government."
2. Novotny, "Legal Aspects of Marine Farming Operations - A Game of Tournament Chess," in Northern Mariculture Laws Oregon State University Sea Grant College Program (1975), p. 26.
3. House Report No. 215 (To accompany H.R. 4198, 83d Congress, 1st Session), on the Submerged Lands Act (March 23, 1953), p. 1426. The Report also cites 22 other instances between 1847 to 1943 where grants were made by states to the federal government of offshore areas which "might be considered either inland or marginal sea waters," and concludes: "These facts established conclusively that the States, during more than a century, have been exercising the highest rights of ownership by conveying to the United States a part of the submerged lands within their boundaries."
4. Smith v. Maryland (18 Haw. 74), McCready v. Virginia (94 U.S. 394), Manchester v. Massachusetts (139 U.S. 240, 11 S. Ct. 559).
5. House Report No. 215, supra, note 3, p. 1427. The Report unequivocally concludes: "These affirmative acts of Congress, and its failure to deny State ownership at any time in our history, establish conclusively that the congressional policy, at least since 1850, consistently has been to recognize State ownership of the lands in question." *Id.*
6. Testimony at hearings before the Senate Interior and Insular Affairs Committee on S.J. Res. 13, etc., 83d Cong. 1st Sess. 341, and Joint Hearings before House Committee on Judiciary, Senate Special Judiciary Subcommittee on H.J. Res. 118, etc., 79th Cong. 1st Sess. 82.

7. S. Rep. No. 133, 83d Cong., 1st Sess. 64, from S. Rep. No. 1592, 80th Cong., 2nd Sess.
8. H.R. Rep. No. 695, 82d Cong., 1st Sess., accompany H.R. 4484, at 5 (July 12, 1951); also U.S. v. California, 332 U.S. 19, 39 (1947). In U.S. v. Louisiana, 363 U.S. 1 (1960, at 94-95, Justice Black, in dissenting, stated: "Not only have the States' possession, dominion and sovereignty over these marginal belts been open and notorious, but that is coupled with the fact that for much more than a century federal departments and agencies not only acquiesced in but unequivocally recognized the States' rightful claims to these belts."
9. S. Rep. No. 133, 83d Cong., 1st Sess. 64 (1953), from S. Rep. No. 133, 2d Sess., also see 332 U.S. 19, at 40. Justice Black, 363 U.S. 1 (1960), dissenting, noted at 94: "Very large sums of money have been spent by the States and their public agencies and grantees in the development and improvement of the marginal submerged lands adjacent to the States' borders."
10. U.S. v. California, 332 U.S. 19 (1947), at 23.
11. S. Rep. No. 1592, (To accompany S. 1988, 80th Cong., 2d Sess.) at 17-18 (June 10, 1948), noted that the legal profession had long assumed State ownership of all lands under navigable waters, to the limits of state boundaries. The report stated: "The evidence is conclusive that not only did our most eminent jurists so believe the law to be, but such was the belief of lower Federal court jurists and State supreme court jurists as reflected by more than 200 opinions. The pronouncements were accepted as the settled law by lawyers and authors of leading legal treatises." Id.
12. 41 U.S. (16 Pet.) 376 (1842).
13. 41 U.S. 212 (1845).
14. Id., at 224. The Court stated that under Article I, Section 8, Clause 16 of the Constitution, the federal government owned only those public lands specifically ceded by particular states to the United States, or specifically purchased by the federal government for federal uses. The U.S. government possessed municipal sovereignty and the power of eminent domain over public lands only until a territory became a state. Tidelands were public lands, had not been ceded by the individual states, and were therefore owned by those states.
15. Id., at 223.
16. Smith v. Maryland, 18 How. 71, 74; Mumford v. Wardwell, 6 Wall. 423, 436; Weber v. Harbor Commissioners, 18 Wall. 57,

65-66; McCready v. Virginia, 94 U.S. 391, 394; Shively v. Bowlby, 152 U.S. 1, 26-28; Manchester v. Massachusetts, 139 U.S. 240, 259-260; United States v. Mission Rock Co., 189 U.S. 391, 404; Louisiana v. Mississippi, 202 U.S. 1, 52; The Abby Dodge, 223 U.S. 166, 174; Borax, Ltd., v. Los Angeles, 296 U.S. 10, 15-16.

17. Supra, note 16.
18. Id., at 341 [Emphasis added].
19. 255 U.S. 49, 65 L. Ed. 500.
20. Id., at 63 [Emphasis added]. The Supreme Court itself acknowledged in U.S. v. California, supra, note 10, at 36, that the language the Court had used in these cases appeared "strong enough to indicate that the Court then believed that states not only owned tidelands and soils under navigable inland waters, but also owned soils under all navigable waters within their territorial jurisdiction, whether inland or not."
21. 332 U.S. 19 (1947).
22. Id., at 30-31.
23. Id., at 29-30.
24. Id., at 30.
25. Id., at 35-36.
26. Id., at 34-35 [Citations omitted].
27. Id., at 36. The Court stated: "We are not persuaded to transplant the Pollard rule of ownership as an incident of state sovereignty in relation to inland waters out into the soil beneath the ocean, so much more a matter of national concern. If this rationale of the Pollard case is a valid basis for a conclusion that paramount rights run to the state in inland waters to the shoreward of the low water mark, the same rationale leads to the conclusion that national interests, responsibilities, and therefore national rights are paramount in waters lying to the seaward in the three-mile belt."
[Citations omitted]
28. Id., at 38-39.
29. 329 U.S. 699 (1950).
30. 329 U.S. 707 (1950).

31. Alabama v. Texas (1954), 347 U.S. 272, 282, Justice Douglas dissenting.
32. U.S. v. Texas, 329 U.S. 707, 719.
33. The latest case being U.S. v. California (1980). The U.S. Department of Justice is also reported to be about to file a suit against the State of Hawaii concerning the state's exercise of jurisdiction in "archipelagic waters." John Briscoe, Deputy Attorney General, State of California, personal communication (July, 1980).
34. U.S. v. Louisiana, 363 U.S. 1, 6-7, N. 4 (1960).
35. Armstrong & Ryner, Coastal Waters: A Management Analysis (Ann Arbor Science Publishers, Ann Arbor; 1978), p. 22.
36. 67 Stat. 29, 43 USC Section 1301, et. eq. The SLA was found constitutional in Alabama v. Texas (1954), 374 U.S. 272. The Court ruled the SLA was a proper disposition of federal territory.
37. Both House and Senate reports attached to the SLA indicate that Congress basically sought to undo what the Supreme Court had wrought in the California, Louisiana and Texas decisions. Eg., S. Rep. No. 133, 83d Cong., 1st Sess., to accompany S.J. Res. 13, at 7-8 (March 27, 1953): "The purpose of this legislation is to write the law for the future as the Supreme Court believed it to be in the past -- that the States shall own and have proprietary use of all lands under navigable waters within their territorial jurisdiction, whether inland or seaward, subject only to the governmental powers delegated to the United States by the Constitution." Justice Black, in U.S. v. Louisiana, 363 U.S. 1, 90, notes "the congressional expressions, stated time and time again that the Act's purpose was to restore to the States what Congress deemed to have been their (the States') historical rights and powers."
38. Black, J., dissenting in U.S. v. Louisiana, supra, note 37, at 98-99. Justice Black stated this as the view of Congress, not as his own view. S. Rep. No. 133, supra, note 35, at 67, reprinting S. Rep. No. 1592, 80th Cong. 2d Sess., under the heading "Equity best served by establishing State ownership," summarizes the equity argument: "The evidence shows that the States have in good faith always treated these lands as their property in their sovereign capacities; that the States and their grantees have invested large sums of money in such lands; that the States have received, and anticipate receiving large income from the use thereof, and from taxes thereon; that the bonded indebtedness, school funds, and tax structures of several States are largely dependent upon State ownership of

these lands; and that the legislative, executive, and judicial branches of the Federal Government have always considered and acted upon the belief that these lands were the properties of the sovereign States.

"If these same facts were involved in a dispute between private individuals, an equitable title to the lands would result in favor of the person in possession . . ." The 1953 Report itself concludes, at 24: "By this joint resolution the Federal Government is itself doing the equity it expects of its citizens."

39. U.S. v. Maine (1975), 420 U.S. 515, at 527.
40. House Report No. 215, supra, note 5, states at 1396: "All agree that only the Congress can resolve the long-standing controversy between the States of the Union and the departments of the Federal Government over the ownership and control of submerged lands. . . . The longer it continues, the more vexatious and confused it becomes. Interminable litigation has arisen between the States and the Federal Government, between applicants for leases under the Federal Mineral Leasing Act and the Departments of Justice and Interior, and between the States and their lessees. Much-needed improvements on these lands and the development of strategic natural resources within them have been seriously retarded. The committee deems it imperative that Congress resolve this needless controversy at the earliest possible date and bring to an end, once and for all, the confusion, chaos, inequities, and injustices that have resulted from the inaction of Congress."
41. S. Rep. No. 133, supra, note 37, at 61, from S. Rep. No. 1592, states: "We are certain that until the Congress enacts a law consonant with what the States and the Supreme Court believed for more than a century was the law, confusion and uncertainty will continue to exist, titles will remain clouded, and years of vexations and complicated litigation will result."
42. *Id.*, at 71, states: "Local controls and promptness action are highly desirable. The fixed, inflexible rules and the delays and remoteness which are inseparable from a centralized national control would, in the committee's judgment, be improvident."
43. *Id.*, at 70, states: "The committee believes the failure to continue existing State control will result in delaying for an indefinite time the intensive development now under way on these lands and that any delay is, in the words of Secretary Forrestal, 'contrary to the best interest of the United States from the viewpoint of national security.'"

44. 67 Stat. 462, 43 USC Section 1331 et seq. The OCSLA declared the policy of the United States to be that "the subsoil and seabed of the Outer Continental Shelf appertained to the United States and are subject to its jurisdiction, control, and power of disposition as provided in this sub-chapter." (43 USC Section 1332(a)).
45. Dean Rusk, "Sea Changes and The American Republic," 9 Georgia Journal of International and Comparative Law 1 (1979), p. 4. Rusk criticizes the lack of a national "ocean policy" despite the passage of the SLA and the OCSLA.
46. 373 U.S. 1 (1960).
47. 382 U.S. 448 (1966).
48. 420 U.S. 515 (1975)
49. Eg., Skiriotes v. Florida 313 U.S. 69 (1941). These powers are discussed more fully in subsection (B)(3) of this report.
50. Eg., Deepwater Port Act of 1974, Coastal Zone Management Act Amendments of 1976, OCSLA Amendments of 1978, and the OTEC Act of 1980.

A. STATE OWNERSHIP OF OFFSHORE RESOURCES

2. Proprietary Rights Granted to the States by the Submerged Lands Act

Q: Does the State have ownership rights in its offshore waters within state boundaries?

A: Under the SLA, the State owns the submerged lands and natural resources in the marginal sea within state boundaries, and has the right to manage, administer, lease, develop, and use these lands and natural resources. It appears that the State also has proprietary rights to the water column and water surface as well.

The Submerged Lands Act relinquished to the states the interest of the federal government in all lands beneath navigable waters within state boundaries. The states were given title to and ownership of not only these submerged lands but also of the natural resources within such lands and the superjacent waters.¹ The SLA explicitly recognized and granted to the respective states "the right and power to manage, administer, lease, develop, and use the said lands and natural resources all in accordance with applicable State law."² Such rights incident to ownership are considered by law to be proprietary rights.

The SLA grants to the states the power to lease areas of the ocean bottom. However, the SLA does not explicitly mention the water column in its grant to the states. Since mariculture projects as well as ocean platform technologies require some degree of exclusive use of ocean space because of the nature of these operations, it must be determined whether the State has the right and power to lease the vertical water column and the ocean surface within the marginal sea.

As stated in the previous subsection, the SLA was enacted primarily in response to the controversy concerning conflicting state and federal assertions of jurisdiction over oil and other minerals in the seabed. New ocean uses such as mariculture and

ocean platform technologies were not contemplated at the time of the Act. One commentator has stated,

"[T]he Submerged Lands Act only conveyed federal right, title and interest in 'land, improvements and natural resources.' Submerged Lands Act, 43 U.S.C. Section 1311 (b). The Act dealt only with the then existing state claims. Future state claims, whether for a superport or a mariculture activity, are not expressly included within the conveyance of right, title and interest. Because mariculture does not involve exploitation of existing natural resources and requires use of the water column, the potential for intergovernmental conflict exists."³

No definitive statement can be made in answer to the question of whether the SLA extends State proprietary authority to the ocean water column itself. However, four arguments can be made which strongly suggest that the State of Hawaii may lease ocean waters in addition to offshore submerged lands:

(1) The SLA's definition of "natural resources" includes "oil, gas, and all other minerals, and fish, shrimp, oysters, clams, crabs, lobsters, sponges, kelp, and other marine animal and plant life."⁴ This broad definition of natural resources "on its face, would seem to include virtually all living and non-living resources on or beneath the ocean floor or within the water column."⁵ Taken in context with the equally broad language describing the rights and powers which the states may exercise over the submerged lands themselves, as well as these natural resources, the plain inference is that Congress intended the states to exercise proprietary rights for all purposes not specifically excluded by the SLA.⁶

The SLA does specify certain exceptions to its grant of authority to the states (these are discussed in subsection (C)(1), below). It therefore seems significant that while the SLA did not specifically include ownership of the water column in the grant of authority to the states, such ownership was not specifically excluded either. Congress reserved to the federal government no proprietary rights in the marginal sea, either waters or submerged lands.

This reinforces the inference that Congress intended the states now possess all proprietary rights which the Supreme Court had declared the federal government to hold.

It is on this basis that one commentator concludes, "a state may lease land and the adjacent water column for mariculture practices and may exclude all non-licensed persons from fishing within areas leased for mariculture purposes."⁷

(2) The intent of Congress in the SLA was to "restore" state proprietary rights which had been recognized prior to the 1947 Supreme Court decision in U.S. v. California.⁸ Before 1947, the Supreme Court had recognized that the states had proprietary rights to the waters above state-owned submerged lands. In McCready v. Virginia (1877),⁹ the Supreme Court stated, "The principal has long been settled in this Court that each State owns the beds of all tide-waters within its jurisdiction . . . In like manner, the States own the tide-waters themselves. . . ."¹⁰ In Port of Seattle v. Oregon & Washington Railroad Co. (1921),¹¹ the Court stated,

"The character of the State's ownership in the land and in the waters is the full proprietary right. The States, being the absolute owner of the tideland and of the waters over them, is free, in conveying tidelands, either to grant with them rights in the adjoining water area, or to completely withhold all such rights."¹² [Emphasis supplied]

It is clear that prior to 1947, the Court had recognized state ownership rights to the water column overlying tidelands within state boundaries. U.S. v. California did not change this rule.

In U.S. v. California, the Court tied the national interest in controlling activities occurring on the surface and in the water column of the open sea to federal ownership of the submerged lands, including "full dominion over the resources of the soil."¹³ But the SLA specifically quitclaimed these federal proprietary

interests to the states. Congress authorized the states instead to exercise all conceivable proprietary rights over submerged lands and natural ocean resources. If federal control over the ocean itself, out to the three-mile limit, justified federal ownership of the lands beneath the ocean, then conversely, the ceding of these submerged lands to the states ought to carry with it proprietary control of the overlying waters, at least to the extent that such control does not interfere with national interests that the SLA explicitly recognizes. There is no reason to believe that a State ocean leasing program which guarantees proper review of all ocean lease applications by all concerned federal agencies would present any conflict with the national interest, as defined by either the SLA or the Supreme Court in U.S. v. California. Therefore, since the Supreme Court has held that (a) state ownership of submerged tidelands vests the states with ownership rights to the overlying waters, (b) control of ocean waters is inseparable from ownership of the offshore submerged lands, and (c) the SLA is a constitutional disposition of federal territory to the states, it may be deduced that state ownership of offshore submerged lands ought to vest the State with ownership rights to overlying ocean waters.¹⁴

(3) The accepted legal definition of "land" also points to the conclusion that state ownership rights in the water column are sufficient to support state-licensing of mariculture and other fixed-location offshore activities. The legal definition of "land" generally includes all interests connected with the land. Land "includes not only the soil or earth, but also things of a permanent nature affixed thereto or found therein, whether by nature, as water. . . . It embraces not only the surface of the earth, but everything under or over it. . . . It has in its legal signification an indefinite extent upward and downward."¹⁵

Although court rulings concerning "navigable airspace" have limited this traditional definition with regard to ownership of

air rights, the Supreme Court has held that "[t]he landowner owns at least as much of the space above the ground as he can occupy or use in connection with the land."¹⁶ Landowners retain a right to utilize the airspace above their lands insofar as this does not present a safety hazard for aircraft. By the same token, the State as submerged lands owner ought to obtain a right to utilize the ocean space above submerged lands insofar as this does not present a safety hazard for surface and subsurface water craft.

(4) Many states now exercise leasing powers within their adjacent ocean waters. Some of these states have enacted laws which explicitly authorize state leasing of the vertical water column. Other state leasing laws governing the exploitation of ocean resources such as oil in practical effect grant exclusive use of the vertical water column. Neither private citizens nor the federal government have thus far successfully challenged any state's exercise of water column leasing powers.

FOOTNOTES

1. 43 U.S.C. §1311.
2. 43 U.S.C. §1311(a).
3. Smith & Marshall, Mariculture: A New Ocean Use, 4 Ga. J. Int'l Comp. L. 307, p. 316 n. 57 (1974).
4. 43 U.S.C. §1301(e).
5. J. Armstrong, P. Ryner, Coastal Waters, A Management Analysis (1978) at 24.

Smith & Marshall, supra, note 4, p. 321, suggests that the definition seems broad enough to cover any conceivable mariculture operation.
6. Smith & Marshall, p. 317.
7. Id. at 321-22.
8. 332 U.S. 19 (1947).
9. 94 U.S. 391 (1877).
10. Id. at 395 [Emphasis supplied].
11. 255 U.S. 58 (1921).
12. Id. at 63.
13. 332 U.S. 19 (1947), at 39.
14. In the recent case of Brusco Towboat Co. v. Oregon, Or. App., 567 P. 2d 1037 (1977), plaintiffs argued that the public, not the state in its proprietary capacity, owned the waters of the state. The Oregon Court of Appeals rejected this argument, stating that it was "based upon the erroneous assumption that ownership of the land does not confer title to the overlying waters. The state is the owner of both the navigable waters and the underlying land. Port of Seattle v. Oregon and W.R.R., 255 U.S. 56, 63, 41 S. Ct. 237, 65 L. Ed. 500 (1921)." Id. at 1042, n. 7.

The Oregon Supreme Court in Brusco Towboat Co. v. Oregon, Or. 589 P. 2d 712 (1978), stated that the Oregon Court of Appeals' ruling on this issue was not necessary. The court instead

asserted that "[t]he state's ownership of the submerged and submersible land alone is sufficient to justify the rental which the Board proposes to charge for occupation of the surface of the water." *Id.*, at 718. The Brusco cases are discussed in greater detail in later sections of this report.

15. Black's Law Dictionary (Revised 4th ed. 1968).
16. United States v. Causby, 328 U.S. 256 (1946), at 264.

B. STATE REGULATION OF OFFSHORE RESOURCES

1. Police Powers of the States

Q: What is the extent of the State's powers over its offshore waters?

A: In addition to proprietary rights, the State has police powers which can be used to conserve, develop, manage, and control its offshore resources in the interest of public health, safety and welfare.

In addition to proprietary rights established by the passage of the Submerged Lands Act, each state has broad policing powers to regulate or prohibit activities within its boundaries in the interest of public health, safety and welfare.¹ These police powers are inherent government powers reserved to the states, unless specifically granted to the Federal Government by the U.S. Constitution.²

State police powers extend to all state marine waters. The U.S. Supreme Court has held that a state "has the power to regulate and control activity within her territorial waters, at least in absence of conflicting federal legislation."³ The Hawaii State Constitution specifically grants to the State of Hawaii "the power to manage and control the marine, seabed and other resources located within the boundaries of the State."⁴

Thus Hawaii, as a coastal state, may restrict or regulate offshore ocean activities within its boundaries. Absent federal restriction, Hawaii may regulate navigation within its waters. A state may act to improve its waterways or remove obstructions therein for the general purpose of aiding navigation.⁵ A state may also authorize activities which impede or obstruct navigation such as the erection of structures in the waters, if such activities serve the public good.⁶

Police powers may be validly exercised to protect and conserve a state's natural resources.⁷ A state may act to protect the natural environment or the ecology of an area.⁸ Thus any activity

taking place within a state's marine waters which may have an adverse impact on the natural environment may be regulated under the police powers of the state. Federal courts have recognized a state's right to take positive action with regard to natural resources as well: "[N]othing is more universally recognized than the right which inheres in the state to conserve, protect and develop its resources for the people's general welfare and prosperity."⁹ Recent decisions have also recognized "ecological values" as a basis for the exercise of the State's police powers.¹⁰ The Hawaii State Constitution relating to "Conservation and Development of Resources" directs the State to exercise its police powers to conserve, protect and develop its resources. However, this provision qualifies the type of "development and utilization of these resources" (which include water and energy sources):

"For the benefit of present and future generations, the State and its political subdivisions shall conserve and protect Hawaii's natural beauty and all natural resources, including land, water, air, minerals and energy sources, and shall promote the development and utilization of these resources in a manner consistent with their conservation and in furtherance of the self-sufficiency of the State."¹¹

The police powers of a state may be exercised to provide for economic needs, and to protect against economic harm.¹² A state may take police action to increase the industries of the state and to develop its resources for the general prosperity of the state.¹³

As part of its power to control and regulate the exploitation of natural resources, a state may regulate the taking of fish and game.¹⁴ A state may take such action as is reasonably necessary to preserve the fish and game within its jurisdiction from extermination.¹⁵ In the absence of limiting federal legislation, the regulation of coastal fisheries falls within the scope of a state's police power.¹⁶ The Hawaii State Constitution specifically reserves

to the State of Hawaii the power to manage and control "state-licensed mariculture operations."¹⁷

Aesthetics may be a valid object of state police measures. Whether a state may regulate private activities solely or predominantly upon aesthetic considerations is not presently a settled point of law. Some courts have ruled that police power regulations based solely upon aesthetic considerations are invalid. Several recent decisions, however, have allowed such regulation with regard to land use. In any event, it is well recognized that aesthetic considerations may at least be taken into account in state legislation directed to the public welfare.¹⁸ In Hawaii, aesthetic considerations may be especially important. Ocean recreation is an important aspect of the Hawaiian environment. Hawaii is also a major tourist destination. The preservation of natural scenic beauty therefore promotes economic well-being as well as aesthetic and environmental values. Likewise, the preservation of historic sites serves important economic, cultural and aesthetic ends. A state may validly act to protect historic sites within its lands and waters.¹⁹

Although a state's police powers are very broad, these powers have limitations. The Fifth Amendment to the U.S. Constitution proclaims: "No person shall . . . be deprived of life, liberty, or property without due process of law; nor shall private property be taken for public use without just compensation." Any state regulation must be a reasonable means for effecting a legitimate public purpose in order to satisfy the due process requirement. If the exercise of the police power is overly restrictive and results in the deprivation of private property rights, just compensation must be paid to the holder of these private property rights. The private property rights that may be affected by state regulation and control of offshore resources in Hawaii include konohiki and native Hawaiian fishing rights and common law riparian rights. These rights are discussed in detail in subsection D below.

The State of Hawaii is presently exercising many of its police powers, and to some extent its proprietary rights in submerged lands, to restrict, regulate and promote activities within its marine waters. The present state and county regulatory framework is outlined in Section VI below.

FOOTNOTES

1. Nebbia v. New York, 291 U.S. 502 (1934); W. H. Greenwell, Ltd. v. Dep't. of Land and Natural Resources, 50 Hawaii 207, 436 P. 2d 527 (1968).
2. Berman v. Parker, 348 U.S. 26 (1954).
3. Alaska v. Arctic Maid, 366 U.S. 199, 203 (1961).
4. Article XI, Section 6.
5. Sands v. Manistee River Improvement Co., 123 U.S. 288 (1887).
6. Manigault v. Springs, 199 U.S. 473 (1905).
7. See 16A Am. Jur. 2d Constitutional Law §422 (1979).
8. Huron Portland Cement Co. v. Detroit, 362 U.S. 440 (1960). However, the Port and Waterways Safety Act of 1972, 33 U.S.C. 1221 (1976) authorizes the Federal Government to "establish vessel size and speed limitations." 33 U.S.C. 1331(33)(iii) (1976). The U.S. Supreme Court has held that this Act "intended uniform national standards for design and construction of tankers that would foreclose the imposition of different or more stringent state requirements." Ray v. Atlantic Richfield Co. and Seatrain Lines, Inc., 435 U.S. 151, 174 (1978). The U.S. Supreme Court invalidated a Washington State law excluding tankers in excess of 125,000 deadweight tons from entering Puget Sound even though the State aimed at insuring vessel safety and thereby protecting the marine environment.
9. Phillips Petroleum Company v. Jones, 147 F. Supp. 122 (DC Okla., 1955).
10. Brecciaroli v. Connecticut Commissioner of Environmental Protection Agency, 36 Conn. L. J. 5 (1974). See also Zabel v. Tabb, 430 F. 2d 199 (5th Cir. 1970) cert. denied, 401 U.S. 910 (1971) which stands for the proposition that the Corps of Engineers is entitled, if not required, to consider ecological factors prior to granting dredge and fill permits.
11. Article XI, Section 1 [Emphasis added].
12. Veix v. Sixth Ward Bldg. & Loan Assoc., 310 U.S. 32 (1939).
13. Bayside Fish Flour Co. v. Gentry, 297 U.S. 422 (1935).

14. Lawton v. Steele, 152 U.S. 133 (1894).
15. Foster-Fountain Packing Co. v. Haydel, 278 U.S. 1 (1928);
Lacoste v. Dept. of Conservation, 263 U.S. 545 (1924).
16. Manchester v. Massachusetts, 139 U.S. 240 (1891).
17. Article XI, Section 6.
18. In Berman v. Parker, 348 U.S. 26, 33 (1954), the U.S. Supreme Court stated, [T]he concept of the public welfare is broad and inclusive. The values it represents are spiritual as well as physical, aesthetic as well as monetary. It is within the power of the legislature to determine that the community should be beautiful as well as healthy, spacious as well as clean, well-balanced as well as carefully patrolled. [Citations omitted]
19. See Maher v. City of New Orleans, 516 F. 2d 1051 (5th Cir., 1975); Penn Central Transportation Co. v. City of New York, 42 N.Y. 2d 324, 397 N.Y.S. 2d 914, 366 N.E. 2d 1271 (1977).

B. STATE REGULATION OF OFFSHORE RESOURCES

2. Regulatory Powers Granted by Federal Legislation

Q: What is the extent of the state's powers over its offshore waters?

A: Under several federal statutes, state authority to regulate offshore activities is maintained or increased in scope.

In our federal system of government, both the states and the federal government may regulate offshore activities. Federal law, however, is preeminent in any conflict between state and federal regulations. Federal limitations upon State authority over offshore waters are discussed in subsections V(C). This section reviews the federal statutes which increase the scope of state authority to regulate offshore activities.

The Federal Water Pollution Control Act, as amended by the Clean Water Act of 1977,¹ recognizes the basic responsibility of the states to control water quality within their boundaries.² The states are authorized by this Act to regulate waste treatment and management,³ and to implement and administer permit programs to enforce effluent limitations and water quality standards.⁴ States may also regulate the discharge of dredged or fill material into state waters.⁵ The Act specifically recognizes, and the U.S. Supreme Court has confirmed that states may enact water quality standards and enforcement regulations which are more stringent than parallel federal regulations.⁶

The Fishery Conservation and Management Act of 1976 (FCMA)⁷ establishes an exclusive 200-mile fishery conservation zone contiguous to the three-mile marginal sea. The FCMA fixes federal control of the 197-mile zone beyond state waters, while specifically reserving to the states continued authority and jurisdiction within state boundaries.⁸ The FCMA also extends to the states a limited role in the management of the 197-mile fishery conservation zone beyond state waters. The Act provides for state representation on regional fishery management councils.⁹ These councils are

responsible for preparing and implementing fishery management plans for all fisheries within their regional jurisdiction. It must be noted, however, that the FCMA also provides that under certain special circumstances, the Secretary of Commerce may regulate fishing within the boundaries of a state.¹⁰ State regulation may therefore be subject to possible federal override.

The Coastal Zone Management Act of 1972 (CZMA)¹¹ recognizes basic state responsibility for management and planning within state coastal zones. Congress found that:

"The key to more effective protection and use of the land and water resources of the coastal zone is to encourage the states to exercise their full authority over the lands and waters in the coastal zone by assisting the states, in cooperation with Federal and local governments and other vitally affected interests, in developing land and water use programs for the coastal zone. . . ."12

Under the CZMA, states may receive federal grants for the development of coastal management programs.¹³ Once a program is approved, federal money is available to support its implementation.¹⁴

The CZMA is more than a grant program, however. Once a state management plan is approved, federal actions affecting the state's coastal zone must be "consistent" with the state's program. There are four categories of activities which are subject to the federal consistency requirements: (1) Activities supported or conducted by a federal agency which directly affect the coastal zone; (2) Development projects conducted by federal agencies which are actually within a state's coastal zone; (3) Activities affecting land or water uses in the coastal zone that require a federal license or permit; (4) State or local government activities receiving federal assistance under other federal programs and which affect the coastal zone.¹⁵

In situations (1) and (2) above, the federally supported or conducted activities must be consistent with the state's plan only "to the maximum extent practicable." For such activities, the responsible federal agency itself reaches the consistency determination. If the state disagrees with the federal agency's determination, it can respond by notifying the agency of the basis of its disagreement and describing alternative measures which would ensure consistency.¹⁶ If a serious disagreement arises between the federal agency and the coastal state, the CZMA provides for mediation by the Secretary of Commerce.¹⁷

For activities requiring a federal permit or license, or for state or local government activities receiving federal assistance, situations (3) and (4) above, the consistency requirements are much stronger. The states have an effective veto power over the issuance of federal permits, licenses or federal assistance grants. In order to obtain a federal license or permit for a project which affects a state's coastal zone, an applicant must certify to the federal licensing or permit-granting agency that the proposed project is consistent with the state CZM program. If the state program opposes such a certification, the federal permit or license must be denied.¹⁸ Similarly, if a state CZM program opposes a federal assistance activity, the federal grant to the applicant agency of the state or local government may not be released.¹⁹ However, this veto power of the states is not absolute. The Secretary of Commerce may override a state's objection to a proposed activity if he finds that the activity is consistent with the objectives of the CZMA or "is otherwise necessary in the interest of national security."²⁰

The consistency provisions of the CZMA provide each coastal state with substantial control and influence over activities located within or directly affecting the state's coastal zone. One obvious effect of the consistency provisions is that any permit issued by the U.S. Army Corps of Engineers pursuant to its

broad jurisdiction of navigation, dredging and filling must be consistent with a state's CZM program.

Federal legislation has also extended to the states considerable influence over activities occurring beyond state boundaries on the outer continental shelf. The CZMA was amended in 1976 to include a consistency provision which requires that any plan for the exploration, development of, or production from any area leased under the Outer Continental Shelf Lands Act (OCSLA),²¹ which affects a state's coastal zone, must be consistent with the state's CZM program.²² The OCSLA itself was amended in 1978 to provide for review by, and consultation with the states concerning the leasing and development of outer continental shelf lands.²³ This has little relevance to Hawaii, however, where no continental shelf exists.

Other federal statutes extend state influence over specific activities occurring beyond state boundaries. The Deepwater Ports Act of 1974,²⁴ which provides a framework for the licensing of deepwater ports beyond the three-mile zone, allows an adjacent coastal state to veto the issuance of a license. An "adjacent coastal state" is one that is directly connected by pipeline to a proposed deepwater port or is within 15 miles of such a port.

The Deepwater Ports Act also makes the civil and criminal laws of the nearest adjacent state applicable to deepwater ports.²⁵ The Outer Continental Shelf Lands Act contains a similar provision which makes the civil and criminal laws of the adjacent state applicable to the subsoil and seabed of the outer continental shelf, and to artificial islands and fixed structures thereon.²⁶

Congress has recently enacted the Ocean Thermal Energy Conversion Act of 1980 (P.L. 96-320) (August 3, 1980) which provides a framework for the licensing, siting, and financing of OTEC facilities and plantships. The Act provides a one-stop federal licensing scheme, but allows an adjacent coastal state to veto the issuance of a federal license. The governor of an adjacent coastal

state with a federally approved State CZM plan must approve the OTEC project before a federal license will be issued.²⁷ An "adjacent coastal state" is defined in the Act as a state which is directly connected by pipeline or electric transmission cable to an OTEC facility, or in whose waters an OTEC facility or plantship would be operated.²⁸ A state may also be designated an "adjacent coastal state" if the risk of damage to its coastal environment is greater than, or equal to, the risk posed to a state directly connected to the proposed OTEC facility, or if the thermal plume of a proposed OTEC facility will impinge on possible locations for other OTEC facilities which can be directly connected to such state.²⁹

Coastal states may also influence the conduct of federal activities through the National Environmental Policy Act (NEPA).³⁰ NEPA requires the filing of environmental impact statements for major federal actions, and the adoption by federal agencies of procedures for considering environmental concerns. Although NEPA does not substantively extend state power, a state as well as private individuals or organizations can challenge federal decisions affecting the coastal zone on procedural grounds. Until compliance with NEPA is judicially confirmed, an ocean activity may be halted entirely. A state can therefore significantly delay an ocean project which it opposes by judicially challenging the project's compliance with NEPA. The threat of such a delay can provide political leverage to the state.³¹

FOOTNOTES

1. 33 U.S.C. §1251-1376 (Supp. II, 1978).
2. Id. §1251(b).
3. Id. §§1281, 1288.
4. States have the authority to administer the permit program for the National Pollutant Discharge Elimination System, if the state program meets federal standards and is approved. In Hawaii, the Department of Health administers the program.
5. The State of Hawaii has not set up a program to implement this permit process. The U.S. Army Corps of Engineers is presently administering it.
6. See Askew v. American Waterways Operators, Inc., 411 U.S. 325 (1973).
7. 16 U.S.C. §§1801-1882 (1976).
8. Id. §1856(a) (Supp. II 1978) provides: "In general.--Except as provided in subsection (b) of this section, nothing in this chapter shall be construed as extending or diminishing the jurisdiction or authority of any State within its boundaries. No State may directly or indirectly regulate any fishing which is engaged in by any fishing vessel outside its boundaries, unless such vessel is registered under the laws of such State."
9. Id. §1852.
10. Id. §1856(b) provides: "Exception.--If the Secretary finds after notice and an opportunity for a hearing in accordance with section 554 of Title 5, that--
 - (A) the fishing in a fishery, which is covered by a fishery management plan implemented under this chapter is engaged in predominately within the fishery conservation zone and beyond such zone; and
 - (b) any State has taken any action, or omitted to take any action, the results of which will substantially and adversely affect the carrying out of such fishery management plan;

the Secretary shall promptly notify such State and the appropriate Council of such finding and of his intention to regulate the applicable fishery within the boundaries of such

State (other than its internal waters), pursuant to such fishery management plan and the regulations promulgated to implement such plan. . . . "

11. Id. §1451-64 (1976).
12. Id. §1451(h). [Emphasis supplied]
13. Id. §1454.
14. Id. §1455.
15. Id. §1456(c)(1)-(3), (d).
16. 15 C.F.R. §§930.30-.44 (1980).
17. 16 U.S.C. §1456(h) (Supp. II 1978); 15 C.F.R. §§930.110-.116 (1980).
18. 15 C.F.R. §§930.50-.66.
19. Id. §§930.90-.100.
20. Id. §§930.120-.134.
21. 43 U.S.C. §§1331-1343 (1976).
22. Id. §1456(c)(3)(B); 15 C.F.R. §§930.70-.86 (1980).
23. 43 U.S.C. §1345 (Supp. II 1978).
24. 33 U.S.C. §§1501-1524 (1976).
25. Id. §1518(b).
26. 43 U.S.C. §1333(a)(2) (1976).
27. P.L. 96-320, §105.
28. Id.
29. Id.
30. 42 U.S.C. §§4321-47 (1976).
31. See Breeden, Federalism and the Development of Outer Continental Shelf Mineral Resources, 28 Stan. L. Rev. 1107, 1130 (1976).

B. STATE REGULATION OF OFFSHORE RESOURCES

3. The Exercise of State Jurisdiction Beyond State Boundaries

Q: What is the extent of the state's powers over its offshore waters?

A: In some circumstances, the state can regulate activities beyond state boundaries in order to effectively manage its coastal resources.

Those federal statutes were earlier described which grant states limited, or powerful but indirect control over offshore activities beyond state boundaries. Two types of state laws also provide authority for coastal states to regulate activities beyond the three-mile zone. The first type of special "long-arm" statutes are "landing laws."¹ "Landing laws" may prohibit the possession, sale or transportation of protected fish or game within a state. Under such laws, a state may control fish or game that are brought into the state from beyond state boundaries.² The regulations apply to all fish or game because it is impossible to distinguish between fish or game caught within or without state boundaries, and therefore any territorial distinctions would render enforcement ineffective. The U.S. Supreme Court has upheld such "extraterritorial control" as a valid exercise of state police powers.³

State courts have also affirmed that states may prohibit possession of fish taken outside the state's territorial waters in order to conserve fish located within state waters.⁴ States may even require a permit for any fishing boat traveling within state waters although the boat catches all its fish beyond state waters.⁵

The second type of "long-arm" regulation is control of activities taking place beyond state boundaries but which have an effect on natural resources located within state boundaries. In Skiriotes v. Florida,⁶ the U.S. Supreme Court affirmed the conviction of a Florida resident who used diving gear prohibited by Florida law to harvest sponges outside the state boundaries. The Court held that

a state can validly exercise its police powers to control the activities of its citizens beyond the territorial limits of the state:

"If the United States may control the conduct of its citizens upon the high seas, we see no reason why the State of Florida may not likewise govern the conduct of its citizens upon the high seas with respect to matters which the State has a legitimate interest and where there is no conflict with acts of Congress."⁷

The Alaska Supreme Court has recently extended the extraterritorial concepts supporting the "landing laws" and the Skiriotès type situation. In State v. Bundrant,⁸ the Alaska court upheld certain state conservation measures restricting the taking of King crab in the Bering Sea, beyond the three-mile marginal sea. The court cited cases upholding "landing laws" to support its decision. In those cases, however, the landing laws did not directly control activities beyond state boundaries, but only regulated resources brought into the state from outside. One of the justifications for the extraterritorial aspect of the landing laws was the problem of enforcement. Nevertheless, the Alaska Supreme Court concluded that "landing laws" were justified primarily on resource conservation grounds, and that such laws did not require that an enforcement problem be present. The court noted that the proper inquiry into such matters is "whether the regulations bear a reasonable relationship to the purpose sought to be achieved."⁹ The court concluded that since crabs are migratory creatures, the state's regulation of activity outside the state was necessary to conserve the crabs existing within state waters. Therefore, the court held that a state could validly exercise its police powers to control activities beyond its boundaries in order to conserve a fishery resource that existed partially within state boundaries.¹⁰

The court in Bundrant also refused to limit the Skiriotès concept of extraterritorial control only to residents of the state. The court cited precedents from domestic and international law and held that Alaska could control the activities of even non-citizens

outside its formal territorial jurisdiction when those activities cause detrimental effects within state boundaries. The court did intimate, however, that the regulations can be applied only against persons having a sufficient "nexus" (i.e. contacts or ties) with the State.¹¹

In sum, there appears to be two well-established types of state extraterritorial control, and the Alaska court has recently extended the possibilities of extraterritorial control in both. This may be important in Hawaii's effort to manage its coastal resources. For example, the Fish and Game Division of the Department of Land and Natural Resources presently regulates the taking of spiny lobsters within state waters. However the taking of spiny lobsters beyond the three-mile limit may adversely impact this important state resource.¹² Under the "landing law" concept, the state may prohibit the possession, transportation or sale of spiny lobsters within the state, even though the lobsters are caught beyond state boundaries. Under the Skiriotes rule, the state may regulate the taking of spiny lobsters beyond state boundaries by its own citizens. Under Alaska's extension of this rule, the state might not only directly regulate the taking of spiny lobsters by its own citizens beyond the three-mile limit, but if non-resident lobster fishermen can be shown to have sufficient ties with the state, it might also regulate their activities as well.

All the bases for state extraterritorial control may no longer apply, however, as a result of the Congressional passage in 1976 of the Fishery Conservation and Management Act (FCMA).¹³ While the FCMA reserves to the states continued jurisdiction and authority within their own boundaries, it prohibits direct or indirect regulation of fishing outside these state boundaries, except with respect to state-registered vessels.¹⁴ Whether or not the FCMA has preempted all extraterritorial state power over fisheries cannot be known until the statute is construed by the courts. The outlook for extraterritoriality is not sanguine, however.

FOOTNOTES

1. See generally, Schoenbaum and McDonald, State Management of Marine Fisheries After the Fishery Conservation and Management Act of 1976 and Douglas v. Seacoast Products, Inc., 19 Wm. & Mary L. Rev. 17, 20-26 (1977).
2. In Silz v. Hesterberg, 211 U.S. 31 (1908) the U.S. Supreme Court upheld a New York law prohibiting the possession of certain game in New York during a closed season. The prohibition applied to all such game, including game brought in from outside the state. Since the purpose of the law was to protect game located within the state, the law was upheld as a valid police power measure.
3. In Bayside Fish Co. v. Gentry, 297 U.S. 422 (1936) the U.S. Supreme Court upheld a California landing law which regulated the processing of sardines regardless of where they were caught. The purpose of the regulation was to conserve fish used for human consumption which are found within state waters. The Court stated: "Sardines taken from waters within the jurisdiction of the state and those taken from without are, of course, indistinguishable; and to the extent that the Act deals with the use or treatment of fish brought into the state from the outside, its legal justification rests upon the ground that it operates as a shield against the covert depletion of the local supply, and thus tends to effectuate the policy of the law by rendering evasion of it less easy." Id. at 426.
4. State v. Richardson, 285 A. 2d 842 (Me. 1972) (court upheld statute prohibiting the possession of lobster, regardless of where obtained, on a boat rigged for other or beam trawling).
5. Frach v. Schoettler, 46 Wash. 281, 280 P. 2d 1038 (1955) (court upheld statute requiring permits for operating commercial fishing boats used to catch salmon and transporting them in and through state waters for delivery); Santa Cruz Oil Corp. v. Milnor, 55 Cal. App. 2d 56, 130 P. 2d 256 (1942) (court upheld statute requiring a permit for fishing vessels operating within state waters, even though fish were caught and would be delivered outside the state).
6. 313 U.S. 69 (1941).
7. Id. at 77.
8. 546 P. 2d 530 (Alaska), appeal dismissed mem. sub nom. Uri v. Alaska, 429 U.S. 806 (1976).

9. Id. at 553.
10. This rationale was followed in the subsequent case of State v. Sieminski, 556 P. 2d 929 (Alaska 1976) which upheld Alaska's extraterritorial regulation of the scallop fishery.
11. The "nexus" requirement was made clear in the subsequent Sieminski case, note 11, supra, at 933.
12. The problem of extraterritorial control of spiny lobsters was identified in personal communications with the personnel of the Division of Fish and Game. (June 5, 1980).
13. 16 U.S.C. §§1801-1882 (Supp. II, 1978).
14. Id. §1856(a).

B. STATE REGULATION OF OFFSHORE RESOURCES

4. Hawaii's Archipelagic Claim

Q: What is the extent of the State's powers over its offshore waters?

A: The State of Hawaii is asserting a claim of jurisdiction over the archipelagic or channel waters between the islands.

The extent of Hawaii's territorial jurisdiction over offshore activities is dependent upon the resolution of Hawaii's archipelagic claim. Generally speaking, "archipelago" means a group of islands. Hawaii's archipelagic claim is based on the principle that all the Hawaiian Islands should be considered legally a single entity, and therefore the channel waters between the islands should fall within Hawaii's territorial jurisdiction. "Archipelagic theories generally recognize waters between islands as internal waters, with baselines usually being drawn around the headlands of all the islands in the chain, and territorial seas extending outward from there. Theories vary, however, and each archipelagic State has made its own unique claims."¹

For several years, the Governor and Marine Affairs Coordinator of Hawaii have asserted archipelagic claims.² In 1977, Hawaii Governor Ariyoshi notified the U.S. Department of Interior that the State had exclusive jurisdiction over coral bed operations which were taking place six miles east of Makapuu, Oahu.³ The Federal Government has not yet taken any action to resolve this claim.

In 1978, the Hawaii State Constitution was amended to include references to Hawaii's archipelagic waters. Article XI, Section 6, states,

"The State shall have the power to manage and control the marine, seabed and other resources located within the boundaries of the State, including the archipelagic waters of the State, and reserves to itself all such rights outside

state boundaries not specifically limited by federal or international law."

In regard to Hawaii's state boundaries, Article XV, Section 1 of the Hawaii Constitution now reads,

"The State of Hawaii shall consist of all the islands, together with their appurtenant reefs and territorial and archipelagic waters, included in the Territory of Hawaii on the date of enactment of the Admission Act."

Article XV's claim to archipelagic waters is far from conclusive. The State Constitution only recognizes archipelagic waters which were included in the Territory of Hawaii when it was admitted as a State. Therefore, if the State's archipelagic waters claim cannot be proven as of 1959, the Constitution makes no claim to archipelagic waters at all.⁴

Hawaii's archipelagic claim is not recognized in present international law. However, the current Informal Composite Negotiating Text (ICNT) of the Third United Nations Conference on the Law of the Sea⁵ contains the following definitions:

- a. "Archipelagic State" means a State constituted wholly by one or more archipelagos and may include other islands;
- b. "Archipelago" means a group of islands, including parts of islands, interconnecting waters and other natural features which are so closely interrelated that such islands, waters and other natural features, form an intrinsic geographical, economic and political entity, or which historically have been regarded as such.⁶

Although Hawaii appears to fall within the definition of "archipelago," the ICNT only recognizes the mid-ocean archipelagic claims of nations consisting wholly of islands. Hawaii does not qualify as a mid-ocean archipelago because it is not a separate political entity.⁷

The ICNT also provides that an archipelagic nation may draw straight baselines joining the outermost points of the outermost

islands. However, within such baselines, the ratio of the area of water to the area of land must be between one-to-one and nine-to-one.⁸ The length of such baselines also must be less than 100 nautical miles.⁹ Therefore, under these provisions, Hawaii clearly cannot assert any archipelagic claim to all waters between the major islands and the leeward islands.

Nor is Hawaii's archipelagic claim recognized by the U.S. federal government. In C.A.B. v. Island Airlines, Inc. (1964)¹⁰ a Federal District Court rejected Hawaii's historic claims to archipelagic channel waters between the Hawaiian Islands, concluding that the channel waters between the islands were international waters. The Ninth Circuit Court of Appeals upheld this lower court decision.¹¹

The District Court specified three criteria which must be taken into consideration in determining whether a state has acquired historic or prescriptive title to a maritime area: 1) There must be a historic exercise of authority over the area. Such dominion must have been formally invoked through local legislation, proclamation or the like; 2) The exercise of dominion by the State must have been active and continuous; 3) The exercise of dominion must have been accepted or acceded to by foreign states.¹² The court concluded that the evidence presented by the plaintiffs did not adequately satisfy these criteria, and therefore no historic or prescriptive right had been established.

It has been argued, however, that Island Airlines is not binding on the State of Hawaii.¹³ The bases of this assertion are: (1) The Island Airlines cases should not have reached the question of the State's boundaries. "The Federal Courts had information sufficient to decide the case, without reaching the merits of a boundary question."¹⁴ The boundary discussion was therefore dicta; (2) The State of Hawaii was not a party to the action and is not restricted by the judicial doctrines of res judicata or collateral estoppel;¹⁵ (3) The court's review of the boundary claims was

inaccurate and incomplete.¹⁶ If these arguments are legitimate, the Island Airlines case does not preclude Hawaii's claim to archipelagic waters.

The Submerged Lands Act (SLA)¹⁷ does not preclude Hawaii's archipelagic waters claim. Although the SLA fixed state boundaries at three miles from the coast line, the definition of "coast line" included "the line marking the seaward limit of inland waters."¹⁸ "Inland waters" is not defined in the SLA. But the drawing of baselines from which the three-mile territorial sea extends is dependent upon the definition given to "inland waters." One commentator states,

"If the archipelagic theory is adopted, the three-mile zone will extend from baselines drawn around the entire Hawaiian Island chain. If the archipelago theory is not adopted, the three-mile zone will extend from baselines drawn around each individual island. The Supreme Court has repeatedly made it clear that States are to exercise control over no more than three miles. But the Supreme Court has not put to rest the question: Three miles from what?"¹⁹

In United States v. California (1965),²⁰ the U.S. Supreme Court defined "inland waters" in accordance with international law. The Court adopted the definition of the Convention of the Territorial Sea and the Contiguous Zone which came into force in 1964. The Convention set out various formulas for determining the boundaries of inland waters.

The Court asserted that its adopted definition of inland waters would not be subject to change in the future, even though international law might change.²¹ The Court therefore "froze" the definition of "inland waters" in terms of the existing international Convention definition. However, one commentator has outlined an argument for possible judicial recognition of Hawaii's archipelagic waters as "inland waters":

"Perhaps 'freezing' of the definition [of 'inland waters'] should apply to the parties to the dispute before the Court without prejudicing the determination of baselines and inland waters for the State of Hawaii, which has not litigated the issue.

Language in the California case indicates that the Supreme Court may defer to international law in preference to the U.S. State Department in defining terms. . . . In future litigation, the court could turn once again to international law, and, if new definitions of an archipelago have become established under international law, it is possible that the courts could adopt archipelagic baselines for Hawaii."²²

The State of Hawaii continues to argue that the decision in Island Airlines v. C.A.B. does not bar the State's claim to inland waters in the channels between islands.²³ The Ninth Circuit Court of Appeals defined "inland waters" according to international law as did the Supreme Court in the California case. Therefore, "should international law of the sea change so as to recognize the archipelago theory, it is possible that the Supreme Court might find that the inland waters are part of the internal archipelagic waters of the State."²⁴

In sum, the status of Hawaii's archipelagic claims remains unresolved. At present, neither federal law nor international law recognizes Hawaii's claims. However, it does not appear that Hawaii is absolutely precluded from asserting such claims.

FOOTNOTES

1. K. Keith, State and Federal Regulation of OTEC Plants in Hawaii, Vol. 2, No. 3 Solar Law Reporter, p. 490, 530 (1980).
2. Id.
3. Hawaii Business News, February 21, 1977; Honolulu Star Bulletin, February 2, 1977, A-13; May 28, 1977, A-8. The State of Hawaii defines coral beds as fisheries, H.R.S. Chapter 188, and therefore open and free to the public, subject to a \$10.00 fishery license.
4. Keith, supra, note 1, p. 536.
5. Informal Composite Negotiating Text, A/CONF. 62/WP. 10/Rev. 2, 11 April 1980.
6. ICNT, Id., Part IV, Archipelagic States, Article 46.
7. Groups of islands adjacent to a mainland, or coastal archipelagos, have sometimes been recognized as extending the boundaries of coastal states. In the Anglo-Norwegian Fisheries Case, I.C.J. Rep. 116 (1951), the International Court of Justice held that the islands lying off the coast of Norway enabled a baseline to be drawn on the seaward side of the islands, thereby extending the width of Norway's territorial sea. The court reasoned that the economic links between the islands and the mainland justified such an extension. Arguably, these considerations are also applicable to mid-ocean archipelagos. R. Schmitt et al., The Hawaiian Archipelago: Defining the Boundaries of the State, Working Paper No. 16, Sea Grant College Program, University of Hawaii, 1975.
8. ICNT, supra, note 5, Part IV, Article 47(1) provides: "Paragraph 1. An Archipelagic State may draw straight archipelagic baselines joining the outermost points of the outermost islands and drying reefs of the archipelago provided that within such baselines are included the main islands and an area in which the ratio of the area of the water to the area of the land, including atolls, is between one-to-one and nine-to-one."
9. Id., Article 47(2) provides: "Paragraph 2. The length of such baselines shall not exceed 100 nautical miles, except that up to 3 percent of the total number of baselines enclosing any archipelago may exceed that length up to a maximum length of 125 nautical miles."

10. 235 F. Supp. 990 (1964).
11. 352 F. 2d 735 (9th Circuit 1965).
12. Island Airlines, 235 F. Supp. at 1004.
13. Rhyne & Rhyne, "Hawaiian State Boundaries," paper submitted to the Governor of the State of Hawaii, 87-101 (October 11, 1973).
14. Id. at 87, 91-92.
15. Id. at 93.
16. Id. at 94-101.
17. 43 U.S.C. §§1301-1315 (1976).
18. Id. §1301(c).
19. Keith, supra, note 1, at 532.
20. 381 U.S. 139 (1965).
21. Id. at 166-67.
22. Keith, supra, note 1, at 533-535.
23. Id., at 535-536.
24. Id., at 535.

C. CONSTITUTIONAL AND FEDERAL LIMITATIONS UPON STATE AUTHORITY

1. Constitutional Powers of the Federal Government

Q: What are the federal constitutional and statutory limitations upon the exercise of state authority over its offshore waters?

A: The federal government has broad powers under the U.S. Constitution to control ocean activities which affect federal interests. Such powers include control over national defense, international affairs, navigation, the production of water power, conservation, and environmental quality. Several federal statutes have been enacted pursuant to these powers.

By virtue of the Submerged Lands Act, states have proprietary rights in the marginal sea. They can also exercise their police powers to control activities therein. However, certain rights and controls are reserved to the federal government which can exercise any powers specifically granted to it by the U.S. Constitution.

The SLA specifically reserved to the federal government continued authority and control over state territorial waters "for the purposes of navigation or flood control or the production of power. . . ."¹ The United States expressly retained "all its navigational servitude and rights in and powers of regulation and control of said lands and navigable waters for the constitutional purposes of commerce, navigation, national defense, and international affairs. . . ."² These federal rights and controls do not include, but are paramount to any of the states' proprietary rights.³ The myriad ways in which these paramount rights limit state authority or have been exercised by the federal government are outlined herein.

All matters dealing with national defense are under the exclusive control of the federal government.⁴ The SLA provides that in time of war or when necessary for national defense, the United States has the right of first refusal to purchase the natural resources in the marginal sea and can acquire or use the submerged lands by paying just compensation.⁵

The President of the United States has the exclusive power to make treaties with foreign nations with the advice and consent of the U.S. Senate.⁶ The States are forbidden to enter into any treaty, alliance, or confederation with a foreign power.⁷ No state can therefore enter into any independent treaty with a foreign nation in regard to such matters as regulation of fisheries or pollution control.⁸

The federal government also has broad powers to regulate all aspects of international affairs.⁹ The U.S. Supreme Court has stated that "although there is in the Constitution no specific grant to Congress of power to enact legislation for the effective regulation of foreign affairs, there can be no doubt of the existence of this power in the law-making organ of the Nation."¹⁰ The President also has broad powers in foreign affairs as the exclusive representative of the nation¹¹ and as Commander in Chief of the Armed Forces. State laws must not intrude into the field of foreign affairs which the Constitution entrusts to the President and Congress.¹² As the U.S. Supreme Court has stated, the "power over external affairs is not shared by the States; it is vested in the national government exclusively."¹³

The Commerce Clause of the U.S. Constitution provides the major source of federal authority over the marginal sea. Congress has the power to "regulate commerce with foreign nations, and among the several states. . . ." ¹⁴ In Gibbons v. Ogden (1824), ¹⁵ the U.S. Supreme Court held that as a part of the power to regulate interstate commerce, the federal government has the right to regulate navigation. The Court stated,

[A]ll America understands, and has uniformly understood, the word "commerce," to comprehend navigation. It was so understood, and must have been so understood, when the Constitution was explained. The power over commerce, including navigation, was one of the primary objects for which the people of America adopted their government, and must have been contemplated in forming it.¹⁶

The federal government's powers under the Commerce Clause go far beyond the control of navigation, however. One extension of the federal government's commerce powers is dominion over the use of water as a power resource. The definition of "natural resources" in the SLA specifically excludes "water power, or the use of water for the production of power."¹⁷ The U.S. Supreme Court originally recognized the federal claim of jurisdiction over the use of water for the production of power in United States v. Appalachian Electric Power Company (1940).¹⁸ The Court there stated,

[I]t cannot properly be said that the constitutional power of the United States over its waters is limited to navigation . . . In truth the authority of United States is the regulation of commerce on its waters. Navigability, in the sense just stated, is but a part of this whole. Flood protection, watershed development, recovery of the cost of improvement through utilization of power are likewise parts of commerce control. . . . That authority is as broad as the needs of commerce. Water power development from dams in navigable streams is from the public standpoint a by-product of the general use of the rivers for commerce. . . . The point is that navigable waters is subject to national planning and control in the broad regulation of commerce granted federal government.¹⁹

When the SLA was enacted, federal jurisdiction over the use of water for the production of power referred to hydroelectric power, or power produced by the use of dams to harness the force of flowing waters.²⁰ OTEC was simply not contemplated in the 1953 legislation. However, a strict reading of the letter of the law, as well as a recognition of the extensive federal power over commerce on navigable waters, lead to the conclusion that the federal government can regulate OTEC operations in state waters.²¹

The Commerce Clause has in truth been found to enable the federal government to regulate any activity in navigable waters. Courts have held that pollution of the nation's waterways is a threat to interstate commerce and also can be a direct threat to

navigation.²² Therefore, the federal government can regulate or prohibit any activity in navigable waters which has a possible adverse ecological impact or is potentially harmful to wildlife or other resources.²³ Any activity which results in a discharge of material into the waters can be regulated by the federal government.²⁴

Congress has exercised its paramount federal constitutional authority through several laws which regulate activities occurring in the marginal sea. The U.S. Army Corps of Engineers administers a permit system under the authority of three of these laws. The Rivers and Harbors Act of 1899²⁵ prohibits the unauthorized obstruction or alteration of any navigable water of the United States. Thus, a permit from the Corps of Engineers is required for any type of construction within navigable waters.²⁶ The Federal Water Pollution Control Act Amendments of 1972, as amended by the Clean Water Act of 1977,²⁷ authorizes the Corps to issue permits for the discharge of dredged or fill material into waters of the United States at specified disposal sites.²⁸ The Marine Protection, Research and Sanctuaries Act of 1972,²⁹ as amended, authorizes the Corps to issue permits for the transportation of dredged material for the purpose of dumping it in any ocean waters. If an activity invokes more than one of these Acts, the Corps consolidates its authorizations through a single permit process.³⁰

The original purpose of a Corps permit was to insure free navigability on the waters.³¹ However, in reviewing any permit application, the Corps is not limited to an evaluation of a project's impact on navigation. The Corps may consider a broad range of factors in making its decision upon whether or not to authorize a proposal:

[T]hat decision should reflect the national concern for both protection and utilization of important resources. All factors which may be relevant to the proposal must be considered; among those are preservation, economics, aesthetics, general environmental

concerns, historic values, fish and wildlife values, flood damage prevention, land use, navigation, recreation, water supply, water quality, energy needs, safety, food production, and, in general, the needs and welfare of the people.³²

The Corps of Engineers' permit is a last-stop approval for activities occurring within navigable waters of the state. The Corps will only issue a permit when all applicable state and local permit and review requirements have been satisfied. All federally licensed activities must also comply with an approved state coastal zone management program. Therefore, a Corps permit will not be issued until a state certification of "consistency" with a state's CZM program has been obtained.³³

The National Environmental Policy Act of 1969³⁴ declares the national policy to "encourage productive and enjoyable harmony between man and his environment."³⁵ The Act essentially states that every federal agency shall consider ecological factors when dealing with activities which may have an impact on the environment.³⁶ The Act requires environmental impact statements to be filed by all federal agencies for "major federal actions significantly affecting the quality of the human environment."³⁷ The granting of a Corps permit is considered a "major federal action."³⁸ A federal EIS is therefore required for any activity in the marginal sea which requires a Corps of Engineers permit and which significantly affects the environment.

The Fish and Wildlife Coordination Act of 1934,³⁹ as amended, and Reorganization Plan No. 4 of 1970,⁴⁰ impose further requirements on activities which propose to control or modify a body of water. Before licensing such an activity, a federal agency must consult with the U.S. Fish and Wildlife Service (Department of the Interior), the National Marine Fisheries Service (Department of Commerce), as appropriate, and the applicable State conservation agencies (in Hawaii, the Fish and Game Division of DLNR).

The purpose of such review and consultation by these agencies is to assure input as to the conservation of wildlife resources.⁴¹

The Federal Water Pollution Control Act Amendments of 1972, as amended by the Clean Water Act of 1977,⁴² requires that a National Pollutant Discharge Elimination System (NPDES) permit be obtained for any activity which may result in a discharge of a pollutant into the nation's waters. The Act permits the states to administer the permit system if their standards meet federal standards, or the states can leave the administration to the federal Environmental Protection Agency (EPA). In Hawaii, the NPDES is administered by the State Department of Health.

Other federal laws may influence the decision to permit a proposed activity within the marginal sea. The Marine Protection, Research and Sanctuaries Act of 1972,⁴³ as amended, prohibits the transportation of any material from the United States for the purpose of dumping it in ocean waters, except under a permit issued by the Administrator of the Environmental Protection Agency. This Act also authorizes the Secretary of Commerce to designate areas of ocean waters as marine sanctuaries for the purpose of preserving or restoring such areas for their conservation, recreational, ecological, or aesthetic values.⁴⁴

The Endangered Species Act of 1973⁴⁵ requires federal agencies to protect threatened or endangered species. The Marine Mammal Protection Act of 1972⁴⁶ protects and encourages the development of marine mammals. The National Historic Preservation Act of 1966⁴⁷ created the Advisory Council on Historic Preservation which is authorized to review and comment upon activities licensed by the federal government which will have an effect upon properties listed in the National Register of Historic Places, or eligible for listing.

FOOTNOTES

1. 43 U.S.C. §1311(d) (1976).
2. Id. §1314(a).
3. Id.
4. The U.S. Constitution grants to Congress the power to provide for the common defense, to declare war, to raise and support armies, to provide and maintain a navy, to make rules for the government of the land and naval forces, to provide for calling forth the militia, to suppress insurrections and repel invasions. U.S. Const., Arti. I, §8. The President of the United States also has broad powers as Commander in Chief of the Armed Forces. Id. Art II, §2, cl. 2.
5. 43 U.S.C. §1314(b) (1976).
6. U.S. Const., Art. II, §2.
7. Id. Art. I, §10.
8. J. Armstrong & P. Ryner, Coastal Waters, A Management Analysis (1978), p. 28.
9. United States v. Curtiss-Wright Export Corp., 299 U.S. 304 (1936).
10. Perez v. Brownell, 356 U.S. 44, 57 (1958).
11. U.S. v. Curtis-Wright, supra, note 9, at 319.
12. Zschernig v. Miller, 389 U.S. 429 (1968).
13. United States v. Pink, 315 U.S. 203, 233 (1942).
14. U.S. Const. Art. I, §8, cl. 3.
15. 22 U.S. 1 (9 Wheat.) (1824).
16. Id. at 190.
17. 43 USC §1301(e) (1976).
18. 311 U.S. 377 (1940).
19. Id. at 426. [Emphasis added]

20. The water power exclusion originally contained the qualifying phrase, "at any site where the United States now owns the water power." No method besides hydroelectric power production existed at the time of the SLA; therefore, other means of power production from the use of water were not contemplated.

The rationale for striking the qualifying phrase is helpful to an understanding of the source and extent of federal authority over the use of water for the production of power:

"The words 'at any site where the United States now owns the waterpower' have been stricken . . . It is the Committee's view that the provision is (1) surplusage; the right of the United States to generate and dispose of electrical energy as an incident to regulation of commerce is amply protected in preceding language; and (2) use of the word "owns" in connection with water power may be construed to impart some right other than and in addition to the rights of the United States under its constitutional power to regulate commerce."

S. Rep. No. 133, 83d Cong., 1st Sess., reprinted in (1953) U.S. Code Cong. & Ad. News 1474, 1494 [emphasis added]. Federal authority over water power is simply part of the powers under the Commerce Clause. Also, no ownership rights are implied by retained federal jurisdiction.

Another committee report explicitly referred to "hydroelectric power," thereby reinforcing the view that other forms of water power were not contemplated. S. Rep. No. 1592, 80th Cong., 2d Sess., reprinted in (1953) U.S. Code Cong. & Ad. News 1501, 1527.

21. See OTEC Act of 1980, Pub. Law 96-320, August 3, 1980. K. Keith, "State and Federal Regulation of OTEC Plants in Hawaii." Solar Law Reporter, Vol. 2, No. 3, p. 490, 515. Keith states that the definition of natural resources appears to omit an OTEC operation from coverage under the Submerged Lands Act, since OTEC involves use of water for power production." Id.
22. U.S. v. Ashland Oil and Transportation Co., 504 F. 2d 1317, 1325 (1974).
23. See Annot., 25 ALR Fed. 706 (197_).
24. Zabel v. Tabb, 430 F. 2d 199 (5th Cir., 1970).
25. 33 U.S.C. §401, 403-4, 407-8 (1976).
26. Section 9 of the Rivers and Harbors Act, 33 U.S.C. 401, prohibits the construction of any dam or dike across any

navigable water of the United States in the absence of Congressional consent and approval of the plans by the Chief of Engineers and the Secretary of the Army.

Under Section 10 of the Act, 33 U.S.C. 403, the construction of any structure in or over any navigable water of the United States, the excavation from or depositing of material in such waters, or the accomplishment of any other work affecting the course, location, condition or capacity of such waters, is unlawful unless the work has been recommended by the Chief of Engineers and authorized by the Secretary of the Army. The instrument of authorization is designated a permit, general permit, or letter of permission.

Section 11 of the Act, 33 U.S.C. 404, authorizes the Secretary of the Army to establish harbor lines channelward of which no piers, wharves, bulkheads or other works may be extended or deposits made without approval of the Secretary of the Army.

Section 14 of the Act, 33 U.S.C. 408, provides that the Secretary of the Army on the recommendation of the Chief of Engineers may grant permission for the temporary occupation or use of any seawall, bulkhead, jetty, dike, levy, wharf, pier, or other work built by the United States.

See, Corps of Engineers regulations, 33 C.F.R. §320.2 (1979).

27. 33 U.S.C. §1344 (1976).
28. The Clean Water Act (Section 404, 33 U.S.C. §1344) provides that a state can administer the permit system if the standards of the proposed state permit system meet federal standards. State administration of the permit system must be approved by the Administrator of the Environmental Protection Agency. In Hawaii, however, the Army Corps of Engineers still administers the Section 404 permit system.
29. 33 U.S.C. §1413 (1976).
30. Discussion with Mr. Stanley T. Arakaki, P.E., Chief of the Operations Branch, U.S. Army Corps of Engineers, Pacific Ocean Division.
31. Cummings v. Chicago, 188 U.S. 410 (1903).
32. 33 C.F.R. §320.4 (1979).
33. Arakaki, supra, note 30.
34. 42 U.S.C. §4321-47 (1976).

35. Id. §4321.
36. Zabel v. Tabb, supra, note 24.
37. 42 U.S.C. §4332(2)(c) (1976).
38. See 33 C.F.R. §325.4 (1979).
39. 16 U.S.C. §661-66(c) (1976).
40. Reorg. Plan No. 4 of 1970, 35 Fed. Reg. 15627, 84 Stat. 2090, (set out in the Appendix to Title 5, U.S.C. Government Organization and Employees (1976)).
41. 16 U.S.C. §662(a) (1976).
42. 33 U.S.C §1344 (1976).
43. 33 U.S.C. §§1401, 1402, 1411-1421 (1976). A permit for the dumping of fish wastes is not required, except when deposited in harbors or enclosed coastal waters, or if the Administrator of the EPA finds it dangerous to health, the environment or ecology. Id. §1412(d).
44. 16 U.S.C. §1432 (1976).
45. 16 U.S.C. §1531 et. seq. (1976).
46. 16 U.S.C. §1361 et. seq. (1976).
47. 16 U.S.C. §470 (1976).

C. CONSTITUTIONAL AND FEDERAL LIMITATIONS UPON STATE AUTHORITY

2. Federal Preemption

Q: What are the federal constitutional and statutory limitations upon the exercise of state authority over its offshore waters?

A: States cannot enact legislation which is incompatible with or which bypasses federal statutory requirements.

Where federal and state legislation are incompatible, federal law prevails. This doctrine of federal preemption is predicated upon the "Supremacy Clause" of the U.S. Constitution.¹ The doctrine was first enunciated by U.S. Supreme Court in Gibbons v. Ogden (1824),² which established that federal licensing of a vessel conferred the right to perform the licensed activity notwithstanding conflicting state legislation.³ Since Gibbons, the doctrine of preemption has guided judicial resolution of federal-state jurisdictional conflicts.⁴

The preemption doctrine may invalidate state law in several circumstances. If a state law stands as "[a]n obstacle to the accomplishment and execution of the full purposes and objectives of Congress,"⁵ if compliance with both federal and state law is a "physical impossibility,"⁶ or if state law "frustrates the full effectiveness of federal law,"⁷ federal law must prevail over state law. These are examples of irreconcilable conflict between federal and state law or interference with federal law by state law.

A second circumstance in which state law may be preempted is where federal legislation in a particular field is intended to be exclusive. When federal legislation thus "occupies the field," any state legislation in the area is invalid regardless of whether or not it interferes with federal laws. However, when a state's exercise of its police power is challenged on this basis, the Supreme Court has held it will "start with the assumption that the historic police power of the States were not to be superseded

by the Federal Act unless that was the clear and manifest purpose of Congress."⁸ This Congressional purpose must be express or necessarily implied. As one commentator has stated, "There are three basic tests applied to determine whether a field has been occupied: The express bar, the bar implied by the regulatory scheme involved, and the bar implied by the subject being regulated."⁹ In the absence of an express bar of state regulation, "the scheme of federal regulation may be so pervasive as to make reasonable the inference that Congress left no room for the states to supplement it."¹⁰ In other cases, the federal interest in regulating a subject matter may be "so dominant that the federal system will be assumed to preclude enforcement of state laws on the same subject."¹¹

The Gibbons case is an example of litigation involving a state law which conflicted or interfered with a federal licensing law. However, a federal license does not preclude all state regulation of the licensee. The States may impose upon federal licensees reasonable, nondiscriminatory conservation and environmental protection measures pursuant to their police powers.¹² In Smith v. Maryland (1855),¹³ the federal enrollment and licensing of vessels was not found to invalidate a state conservation law which limited the fishing implements that could be used by a federally licensed vessel to take oysters from state waters. In Manchester v. Massachusetts (1891),¹⁴ the U.S. Supreme Court upheld a state law which prohibited the use of certain types of fishing tackle in specified areas despite the existence of federal fisheries licenses. In Huron Portland Cement Co. v. Detroit (1960),¹⁵ the Court held that a city ordinance regulating smoke emissions was properly applicable to federally licensed vessels.¹⁶ These cases reflect the general rule that "the mere possession of a federal license . . . does not immunize a ship from the operation of the normal incidents of local police power."¹⁷

Recent cases involving the application of the principles of preemption to coastal resources law "indicate that the Supreme

Court recognizes the interest of the states in regulating and protecting such resources and will invalidate state law only when there is a clear frustration of a federal objective."¹⁸ The leading case, Askew v. American Waterways Operators, Inc. (1973),¹⁹ involved a challenge to the Florida Oil Spill Prevention and Pollution Control Act of 1970,²⁰ which imposes strict liability for damages caused by oil spills and allows the state to recover clean-up costs. Two questions were presented in this case. First, was the Florida legislation preempted by the Federal Water Quality Improvement Act of 1970?²¹ Second, can a state exercise its police powers in the area of federal admiralty and maritime jurisdiction? The lower court had held that the Florida legislation was an unconstitutional intrusion into the federal maritime domain. The Supreme Court reversed, stating,

"We find no constitutional or statutory impediment to permitting Florida, in the present setting of this case, to establish any 'requirement or liability' concerning the impact of oil spillages on Florida's interests or concerns. To rule as the District Court has done is to allow federal admiralty jurisdiction to swallow most of the police power of the States over oil spillage--an insidious form of pollution of vast concern to every coastal city or port and to all the estuaries on which the life of the ocean and the lives of the coastal people are greatly dependent."²²

The Court held that the Federal Act did not preclude, but in fact specifically allowed state regulation.²³ The federal statute expressly contemplated federal-state cooperation in administering the water quality program. Therefore, Congress clearly did not intend to occupy the field, but instead intended to preserve the rights of the States to exercise their historic police powers to protect their coastal resources and populations.

The Court also reviewed the federal and the state law and could find no discernable conflict between the two. The federal and state schemes were aimed at different goals.

Finding that the federal government had not occupied the field, and that no fatal conflict existed between the state and federal statutory schemes, the Court addressed the issue of "whether a State constitutionally may exercise its police powers respecting maritime activities concurrently with the Federal Government."²⁴ The Court concluded that

"a State, in the exercise of its police power, may establish rules applicable on land and water within its limits, even though these rules incidentally affect maritime affairs, provided that the state action does not contravene any acts of Congress, nor work any prejudice to the characteristic features of the maritime law, nor interfere with its proper harmony and uniformity in its international and interstate relations."²⁵

Askew, therefore, holds that state coastal regulation, unless plainly contradictory to federal regulation, is allowed to coexist with even far-reaching federal regulation of the field.²⁶

State regulation of coastal resources must be carefully drafted, however, so as not to directly conflict with federal legislation. A Virginia statute which prohibited non-residents from catching menhaden in the Virginia portion of Chesapeake Bay was recently invalidated in Douglas v. Seacoast Products (1977).²⁷ As in Gibbons, the Supreme Court held that the state statute was preempted by the Federal Enrollment and Licensing Act. The federal license was interpreted to confer the right to perform the licensed activity, in this case the right to engage in the "mackerel fishery."²⁸ The state statute invalidly discriminated against non-resident owners of federally enrolled vessels. While the Court struck down this particular state statute, it again explicitly recognized the rights of the States to impose upon federal licensees reasonable and evenhanded conservation and environmental protection measures.²⁹

In Ray v. Atlantic Richfield Co. (1978),³⁰ the Supreme Court invalidated on preemption grounds certain provisions of the State

of Washington's Tanker Law.³¹ The Washington law regulated the design, size, and movement of oil tankers in Puget Sound. The state law (1) required that oil tankers of a minimum size must carry a state-licensed pilot while navigating the Sound, (2) excluded all tankers exceeding a certain weight, and (3) required that tankers of specified weights must either satisfy safety design standards prescribed by the statute or use tug escorts.

The pilotage requirement was declared to be in direct conflict with specific federal laws which provided that an "enrolled" vessel (that is, one engaged in domestic trade) must be under the control of a pilot licensed by the Coast Guard. Additional licensing requirements could not be imposed by state or municipal governments.³² However, the pilotage requirement was valid as applied to "registered" vessels (ones engaged in foreign trade), since federal laws here left the state free to impose such requirements.

The weight limitation provision of the state law was also invalidated. The Secretary of Transportation was authorized by the Federal Ports and Waterways Safety Act of 1972 (FPWSA)³³ to establish vessel size limitations, and the Court ruled Congress did not intend higher standards to be imposed by the states. Regulations under the FPWSA had been already established for the Puget Sound area.

Similarly, the Washington Tanker Law's safety requirements were struck down because the FPWSA comprehensively regulated design and construction standards, and also contemplated uniform national and international standards. Thus, states could not impose different or stricter design requirements.

The state statutory provision imposing tug escort requirements for vessels which failed to satisfy the state's design standards was upheld. The Court ruled that this provision was a permissible local safety measure because no inconsistent federal regulations had actually been established.

The Ray case did not entail a total diminution of state prerogatives. Ray establishes that even where preemption has been found, state regulation will only be invalidated to the extent that there is actual conflict with federal regulations. As the Supreme Court has elsewhere stated, "the proper approach is to reconcile the operation of both statutory schemes with one another rather than holding one completely ousted."³⁴

The Court in the Ray case again recognized the validity of state conservation and environmental laws.³⁵ The Court pointed out, however, that "in none of the relevant cases sustaining the application of state laws to federally licensed or inspected vessels did the federal licensing or inspection procedure implement a substantive rule of federal law addressed to the object also sought to be achieved by the challenged state regulation."³⁶ Therefore a state may not enact legislation for precisely the same purpose that is encompassed in a federal law. A state may, however, exercise its police powers to protect its own interests in the coastal zone, to the extent that there is no actual conflict with federal law.³⁷ Coastal resource development planning and regulation are especially important state prerogatives because of the need to protect the sensitive ecological balance, as well as the various interests of the public, found within coastal waters.³⁸

In sum, state police measures enacted to protect or regulate activities occurring within coastal waters will not be preempted by existing federal law if no direct conflict exists with any federal law, if there is no specific Congressional intent to exclude state regulation in the matter, and if there is no compelling need to establish national uniformity in a jurisdictional area.

FOOTNOTES

1. Article VI, Cl. 2 of the U.S. Constitution.
2. 22 U.S. 1 (9 Wheat.) (1824).
3. In the Gibbons case, the New York Legislature had granted to Robert Fulton and Robert Livingston the exclusive right to operate steam-powered vessels within state waters. The exclusive right to navigate steamboats between New Jersey and New York City was subsequently assigned to Aaron Ogden. Gibbons began operating steamboats in violation of Ogden's sub-monopoly. Gibbons' steamboats had been federally enrolled and licensed to carry on the coasting trade. Nevertheless, Ogden obtained an injunction from the New York courts restraining Gibbons from operating his boats in New York waters. The U.S. Supreme Court reversed the decision of the New York courts and held that Gibbons had federal authority to operate his boats, and the conflicting New York law must yield to the federal law.
4. See, Wrede, Preemption and the Role of State Legislation in the Coastal Zone, 10 Natural Resources Lawyer 237 (1977); Schoenbaum & Parker, Federalism in the Coastal Zone: Three Models of State Jurisdiction and Control, 57 N. Car. L. Rev. 231 (1979); Breeden, Federalism and the Development of Outer Continental Shelf Mineral Resources, 28 Stanford L. Rev. 1107 (1976). All articles describing the application of the doctrine of preemption in the governance of ocean resources.
5. Hines v. Davidowitz, 312 U.S. 52, 67 (1941).
6. See, e.g., Florida Lime & Avocado Growers, Inc. v. Paul, 373 U.S. 132, 142-43 (1963).
7. Perez v. Campbell, 402 U.S. 637, 651-52 (1971).
8. Rice v. Santa Fe Elevator Corp., 331 U.S. 218, 230 (1947); Jones v. Rath Packing Co., 430 U.S. 519, 525 (1977). [Emphasis added].
9. Wrede, supra, note 4, at 241.
10. Rice v. Santa Fe Elevator Corp., 331 U.S. at 230.
11. Id.
12. Douglas v. Seacoast Products, Inc., 431 U.S. 265, 277 (1977).

13. 18 How. 71, 15 L. Ed. 269 (1855).
14. 139 U.S. 240 (1891).
15. 362 U.S. 440 (1960).
16. The Court stated, "Legislation designed to free from pollution the very air that people breathe clearly falls within the exercise of even the most traditional concept of what is compendiously known as the police power. 'In the exercise of that power, the states and their instrumentalities may act, in many areas of inter-state commerce and maritime activities, concurrently with the federal government. Id. at 442.
17. Id. at 447.
18. Schoenbaum & Parker, supra, note 2, at 256.
19. 411 U.S. 325 (1973).
20. Fla. Stat. Ann. §376.
21. 33 U.S.C. §1161 (1970), amended by the Federal Water Pollution Control Act of 1972, 33 U.S.C. 1251-1376 (1976).
22. 411 U.S. at 328.
23. Id. at 329; 33 §1161(o) (1970).
24. 411 U.S. at 337.
25. Id. at 339.
26. See Note, "State Regulation of Liquefied Natural Gas Facilities Siting: A Case for Federal Preemption?" 7 Review of Law and Social Change 7, 15-18 (1978).
27. 431 U.S. 265 (1977).
28. Id. at 280-81.
29. Id. at 277.
30. 435 U.S. 151 (1978).
31. Wash. Rev. Code §88.16.170 (Supp. 1975).
32. 46 U.S.C. §§215, 364 (1976).
33. 33 U.S.C. §§1221-1227 (1976).

34. Silver v. New York Stock Exch., 373 U.S. 341, 357 (1963).
35. 435 U.S. at 164.
36. Id.
37. One commentator has stated, "The courts will engage in statutory analysis to reconcile apparent conflicts, invalidating state law only when federal law compels a directly contrary result or when Congress has unmistakably called for national uniformity in the matter." Schoenbaum & Parker, supra, note 2, at 259.
38. See, Delogu, Land Use Control Principles Applied to Offshore Coastal Waters, 59 Ky. L. Rev. 606 (1971); the Hawaii Coastal Zone Management Program has initiated an Ocean Area Resource Management Plan so that ocean activities can be reviewed to determine if they are consistent with Hawaii's coastal zone management policies and objectives.

C. CONSTITUTIONAL AND FEDERAL LIMITATIONS UPON STATE AUTHORITY

3. The Commerce Clause

Q: What are the federal constitutional and statutory limitations upon the exercise of state authority over its offshore waters?

A: The Commerce Clause acts as a bar to any state regulation which excessively impedes the flow of goods in interstate commerce.

As noted in subsection (C)(1), interstate commerce is regulated exclusively by Congress. The framers of the U.S. Constitution recognized "that in order to succeed, the new Union would have to avoid the tendencies toward economic Balkanization that had plagued relations among the Colonies and later among the States under the Articles of Confederation,"¹ and therefore specifically vested such regulatory authority in the new federal government through the "Commerce Clause." As a result, this Nation is "a common market in which state lines cannot be made barriers to the free flow of both raw materials and finished goods in response to the economic laws of supply and demand."²

Courts construing the Commerce Clause have shown a concern for balancing state and federal powers. The federal responsibility is to insure the free flow of commerce within the nation. This may at times conflict with a state's responsibility to protect the health, safety and welfare of its citizens. In this clash, a state regulation which affects interstate commerce will be upheld, however, if "the means of regulation chosen are reasonably adapted to the end sought"³ and the benefit sought by the regulation outweighs the burden placed upon interstate commerce.⁴

Any state statute which discriminates against interstate commerce, either on its face or in practical effect, at a minimum "invokes the strictest scrutiny of any purported legitimate local purpose and the absence of nondiscriminatory alternatives."⁵ However, where discrimination against interstate commerce is only incidental to legitimate state legislative objects, the permissible

authority which the state may exercise in this field is set forth by the United States Supreme Court in Pike v. Bruce Church, Inc. (1970)⁶:

"Where the statute regulates evenhandedly to effectuate a legitimate local public interest, and its effects on interstate commerce are only incidental, it will be upheld unless the burden imposed on such commerce is clearly excessive in relation to the putative local benefits. . . . If a legitimate local purpose is found, then the question becomes one of degree. And the extent of the burden that will be tolerated will of course depend on the nature of the local interest involved, and on whether it could be promoted as well with a lesser impact on interstate activities."⁷

The Commerce Clause may be said to embody a concept of "uniformity." Where national uniformity is deemed necessary for the free flow of commerce, state legislation must give way. The Supreme Court has invalidated state regulations, for example, which imposed restrictions on vehicles used in interstate transportation.⁸ The Court has stated:

"There has . . . been left to the States wide scope for the regulation of matters of local state concern, even though it in some measure affects the commerce, provided it does not materially restrict the free flow of commerce across state lines, or interfere with it in matters with respect to which uniformity of regulation is of predominant national concern."⁹

The need for national uniformity, if determined, will invalidate a state statute, even in the absence of federal legislation in the field.

State legislation drafted to regulate activities occurring within coastal waters must recognize the Commerce Clause requirements of uniformity and non-interference with interstate commerce. While development of the coastal zone may promote the economic

welfare of a state, such development cannot be encouraged by legislation which discriminates against out-of-state businesses, or by legislation which shields local businesses from out-of-state competition. State legislation cannot favor local businesses by restricting the importation of out-of-state products. This is one form of economic protectionism which has been struck down as being unduly burdensome to interstate commerce.¹⁰ Nor can a state restrict consumption or use of commercial products generated by coastal zone development to within the state in order to satisfy state needs.¹¹

State burdens upon interstate commerce are equally prohibited in Hawaii, despite the fact that Hawaii is separated from the rest of the states by the Pacific Ocean. Hawaii may not impose undue restrictions on ships and aircraft which come into the state. By extension, state regulations which would prohibit certain resources from entering Hawaiian waters, or which would restrict the construction of pipelines or energy powerlines and associated onshore receiving facilities, could be subject to a Commerce Clause challenge.

It is clear, however, that water use planning and controls, as well as environmental regulations, promote permissible state objectives. Thus legislation enacted pursuant to such objectives will be upheld unless the burden imposed on interstate commerce "is clearly excessive in relation to the putative local benefits."

FOOTNOTES

1. Hughes v. Oklahoma, 441 U.S. 322, 325 (1979).
2. Hughes v. Alexandria Scrap Corp., 426 U.S. 794, 803 (1976).
3. South Carolina State Highway Dept. v. Barnwell Bros., 303 U.S. 177, 190 (1938).
4. Southern Pacific Co. v. Arizona, 325 U.S. 761 (1945).
5. Hughes v. Oklahoma, 441 U.S. at 337.
6. 397 U.S. 137 (1970).
7. 397 U.S. at 142.
8. In Bibb v. Navajo Freight Lines, 259 U.S. 520 (1959), the Court struck down an Illinois statute which required a particular type of mudguard on trucks operating on its highways. The specified type of mudguard was illegal in Arkansas and different from those permitted in at least 45 other states. The Court stated, at 529: "This is one of those cases--few in number--where local safety measures that are nondiscriminatory place an unconstitutional burden on interstate commerce. This conclusion is especially underlined by the deleterious effect which the Illinois law will have on the 'interline' operation of interstate motor carriers."

In Southern Pacific Co. v. Arizona, 325 U.S. 761 (1945), the Court invalidated an Arizona statute which limited the length of trains passing through the state.

9. 325 U.S. at 770.
10. See Dean Milk Co. v. City of Madison, 340 U.S. 349 (1951); Hunt v. Washington Apple Advertising Comm'n., 432 U.S. 333 (1977).
11. See West v. Kansas Natural Gas Co., 221 U.S. 229 (1911) (The Court struck down a state statute that prohibited exportation of the state's natural gas); Pennsylvania v. West Virginia, 262 U.S. 553 (1923) (The Court invalidated a state statute which required natural gas companies within the State to satisfy all fuel needs of state residents before transporting any natural gas out of the State); Foster-Fountain Packing Co. v. Haydel, 278 U.S. 1 (1928) (The Court stated that "[a] State is without power to prevent privately owned articles of trade from being shipped and sold in interstate commerce on the ground that they are required to satisfy local demands or because they are needed by the people of the State." 278 U.S. at 10).

C. CONSTITUTIONAL AND FEDERAL LIMITATIONS UPON STATE AUTHORITY

4. Privileges and Immunities

Q: What are the federal constitutional and statutory limitations upon the exercise of State authority over its offshore waters?

A: Any state statute which discriminates against non-residents and which affects a fundamental right, violates the Privileges and Immunities Clause unless there is a substantial reason for the discrimination.

Any state regulation that discriminates in some manner against non-residents of the state is subject to challenge under the Privileges and Immunities Clause of the U.S. Constitution. (Article IV, Section 2), which declares: "The Citizens of each State shall be entitled to all Privileges and Immunities of Citizens in the several States." The Privileges and Immunities Clause and the Commerce Clause have a shared vision of federalism, which stems from their common origin in the Fourth Article of the Articles of Confederation.¹

In Corfield v. Coryell (1823),² an early case defining the scope of the Privileges and Immunities Clause, a federal circuit court viewed the Clause as protecting only "those privileges and immunities which are, in their nature, fundamental; which belong, of right, to the citizens of all free governments."³

In Toomer v. Witsell (1948),⁴ the Supreme Court adopted a new standard. The Court disregarded the "fundamental rights" analysis and broadly interpreted the Clause as prohibiting any State discrimination against non-residents "where there is no substantial reason for the discrimination beyond the mere fact that they are citizens of other States."⁵ Under this "substantial reason" test, a state statutory classification based on the fact of non-citizenship is unconstitutional "unless there is something to indicate that non-citizens constitute a peculiar source of evil at which the statute is aimed."⁶ Moreover, even where the presence or activity of non-residents causes or adds to the problem the State seeks

to remedy, there must be a "reasonable relationship between the danger represented by non-citizens, as a class, and the . . . discrimination practiced upon them."⁷

Cases subsequent to Toomer no longer inquired into whether a given right was "fundamental" or not. Rather, the Court focused on whether a statute discriminated against non-residents and analyzed the State's justification for the discrimination."⁸

The "fundamental rights" aspect of the Privileges and Immunities Clause, however, was given new life in Baldwin v. Montana Fish and Game Comm'n. (1978).⁹ The Supreme Court recognized that in previous cases the Clause "has been interpreted to prevent a State from imposing unreasonable burdens on citizens of other States in their pursuit of common callings within the State, . . . in the ownership and disposition of privately held property within the State, . . . and in access to the courts of the State."¹⁰ However, the Court also recognized that state citizenship may sometimes validly be used to distinguish among persons. For example, citizenship can be a prerequisite for the privilege of voting, qualifying for elective office, and sometimes for the benefit of particular state laws and services.¹¹ Some distinctions between residents and non-residents were viewed by the Court as merely reflecting individual differences between States. The Court declared, "Only with respect to those 'privileges' and 'immunities' bearing upon the vitality of the Nation as a single entity must the State treat all citizens, resident and non-resident, equally."¹² The Court therefore upheld a Montana licensing scheme for elk hunting which discriminated against non-residents. The Court emphasized that recreational hunting was not a means of livelihood. Access to Montana elk was not basic to the maintenance and well-being of the Nation. And the licensing scheme did not restrict the right to travel. Therefore, the Court held that equality of access to a state's limited wild game resource did not fall within the purview of the Privileges and Immunities Clause.

One month after the decision in Baldwin, however, the Supreme Court in Hicklin v. Orbeck (1978),¹³ struck down an Alaska statute which required that residents be hired in preference to non-residents for jobs related to Alaska's oil and gas resources. The Court based its decision on the "substantial reason" test of Toomer. The Court made no attempt to distinguish Baldwin.

The apparent distinction between Hicklin and Baldwin is that the latter dealt with access to a recreational activity and the former dealt with the right to pursue a commercial livelihood. The Court in Hicklin recognized that the Privileges and Immunities Clause bars state discrimination against non-residents "seeking to ply their trade, practice their occupation, or pursue a common calling within the State."¹⁴ The Court cited Ward v. Maryland (1871),¹⁵ where the Court had previously stated that "the clause plainly and unmistakably secures and protects the right of a citizen of one State to pass into any other State of the Union for the purpose of engaging in lawful commerce, trade, or business without molestation."¹⁶ Therefore it appears that commercial pursuits are generally protected by the Privileges and Immunities Clause, while recreational pursuits are not.

Such a distinction between commercial and recreational activity can have an impact on a state's efforts to plan and regulate the development of limited coastal resources. Where there is a limited resource, a state may want to preserve that resource by limiting access to it by non-residents. Such discrimination against non-residents will not pass muster under the Privileges and Immunities Clause unless the "substantial reason" test is satisfied, and if the activity affected is not "fundamental." It appears that a state can reasonably restrict non-resident access to its purely recreational resources through regulation or through higher licensing fees. However, in any commercial leasing or licensing scheme for state marine waters, a burden imposed on non-residents as a class would be difficult to justify under the "substantial reason/

fundamental rights" tests. Any absolute prohibition against non-resident participation in commercial coastal development would certainly be struck down upon challenge.

FOOTNOTES

1. Hicklin v. Orbeck, 437 U.S. 518, 531-32 (1978); Baldwin v. Montana Fish and Game Comm'n, 436 U.S. 371, 379-80 (1978).
2. 6 F. Cas. 546 (No. 3,230) (C.C.E.D. Pa. 1823).
3. Id. at 551. The opinion mentioned several "fundamental" rights which fall under the Privileges and Immunities Clause:

"Protection by the Government; . . . [t]he right of a citizen of one state to pass through, or to reside in any other state, for purposes of trade, agriculture, professional pursuits, or otherwise; to claim the benefit of the writ of habeas corpus; to institute and maintain actions of any kind in the courts of the state; to take, hold and dispose of property, either real or personal; and an exemption from higher taxes or impositions than are paid by the other citizens of the state." Id.
4. 334 U.S. 385 (1948).
5. 334 U.S. at 396.
6. 334 U.S. at 398.
7. 334 U.S. at 399.
8. See Mullaney v. Anderson, 342 U.S. 415 (1952); Doe v. Bolton, 410 U.S. 179 (1973); Austin v. New Hampshire, 420 U.S. 656 (1975).
9. 436 U.S. 371 (1978).
10. 436 U.S. at 383.
11. Id.
12. Id.
13. 437 U.S. 518 (1978). c.f. Nehring v. Ariyoshi, 443 F. Supp. 228 (D. Haw. 1977) (durational residency requirement for State employment ruled unconstitutional).
14. 437 U.S. at 524.
15. 12 Wall 418, 20 L. Ed. 449 (1871).
16. 12 Wall at 418, 20 L. Ed. at 449.

C. CONSTITUTIONAL AND FEDERAL LIMITATIONS UPON STATE AUTHORITY

5. Equal Protection

Q: What are the federal constitutional and statutory limitations upon the exercise of state authority over its offshore waters?

A: Under the Equal Protection Clause of the U.S. Constitution, legislative classifications and other State regulations relating to conservation, allocation of a limited resource, ease of enforcement and assessment of costs incurred by the State in regulating and preserving a resource have been upheld as legitimate State interests.

Under traditional equal protection analysis, a legislative classification of persons is subject to judicial scrutiny under a "rational basis" test. Under this test, a legislative classification must bear some rational relationship to a conceivable legitimate state interest or purpose. However if the classifying legislation involves a "suspect classification" or affects a "fundamental right," such legislation is subject to strict judicial scrutiny. Under this "strict scrutiny" standard, a legislative classification will be upheld only if it is necessary to promote a "compelling" state interest, and is the least drastic alternative available. "Suspect" classifications include those based on race, alienage, national origin, and religion. "Fundamental interests" which must be protected under the "strict scrutiny" standard include the right of procreation, the right to marry, the right to exercise First Amendment freedoms, the right to interstate travel, and the right to vote.¹

In Takahashi v. Fish and Game Comm'n (1948),² the U.S. Supreme Court struck down a California statute forbidding the issuance of commercial fishing licenses to aliens ineligible for citizenship. Such discrimination against a "suspect" class was violative of the Equal Protection Clause and could not be upheld as a valid conservation measure.

In Baldwin v. Montana Fish and Game Comm'n (1978),³ a case noted earlier in discussing discrimination against non-residents,

the Supreme Court upheld a Montana statute which discriminated against non-residents by exacting higher licensing fees. Classifications based on residency are not considered "suspect." Under the "rational basis" test, the Court held that the Montana statute was rationally related to the state interests in conservation, the cost of preserving the resource, and enforcement of the regulations.

In a recent Hawaii case, Maeda v. Amemiya (1979),⁴ the Hawaii Supreme Court upheld a statute which created two classes of persons permitted to catch nehu (a bait fish): (1) properly licensed commercial tuna fishermen, who may use a net of unlimited size, and (2) all other fishermen, who may catch nehu for home consumption or for bait purposes with a net no longer than 50 feet. The court held that the right to work, even though constitutionally protected, is not a fundamental right and does not invoke the application of the "strict scrutiny" standard. The court applied the less rigorous "rational basis" test. The court found that the statute was rationally related to the legitimate state interests in conservation and allocation of a limited resource, and that enforcement of the law pursuant to these legitimate regulatory objectives was permissible.

In any coastal resource development or preservation scheme, a state regulation which involves a "suspect classification" or which derogates a "fundamental right," will be subject to the "strict scrutiny" standard and will very likely be struck down by the courts. If no "suspect classification" or "fundamental right" is involved, a statutory classification of persons must be rationally related to a legitimate state interest. Conservation, allocation of a limited resource, ease of enforcement, and assessment of costs incurred by the state in regulating and preserving a resource have been recognized as legitimate state interests.

FOOTNOTES

1. See generally, 16A Am. Jur. Constitutional Law, §750 (1979).

The imposition of durational residency requirements to qualify for significant state benefits have been struck down under the Equal Protection Clause because such requirements "penalized" the fundamental right to interstate travel. See Memorial Hospital v. Maricopa County, 415 U.S. 250 (1974); Dunn v. Blumstein, 405 U.S. 330 (1972); Shapiro v. Thompson, 394 U.S. 618 (1969). Any ocean leasing scheme should avoid imposing such requirements.

2. 334 U.S. 410 (1948).
3. 436 U.S. 371 (1978).
4. 60 Haw. 662, 594 P. 2d 136 (1979).

C. CONSTITUTIONAL AND FEDERAL LIMITATIONS UPON STATE AUTHORITY

6. State Ownership of Natural Resources

Q: What are the federal constitutional and statutory limitations upon the exercise of State authority over its offshore waters?

A: The fact that a state "owns" its natural resources does not entitle the State to control such resources in a manner which conflicts with federal constitutional and statutory law.

States have often asserted that they "own", in trust for their citizens, the natural resources located within their boundaries. It is argued, therefore, that a state may exercise this "ownership" to control and allocate its resources in any way it pleases for the exclusive benefit of its own citizens.¹

In McCready v. Virginia (1877),² the U.S. Supreme Court upheld a Virginia law prohibiting use of the state's oyster beds by non-residents. The Supreme Court declared that the law did not violate the Privileges and Immunities Clause,³ and stated its reasoning as follows:

"The principle has long been settled in this Court that each State owns the beds of all tide-waters within its jurisdiction, unless they have been granted away. . . In like manner, the States own the tide-waters themselves, and the fish in them, so far as they are capable of ownership while running. For this purpose, the State represents its people, and the ownership is that of the people in their united sovereignty. . . (The fisheries are) under the exclusive control of the State, which has consequently the right, in its discretion, to appropriate its tide-waters and their beds to be used by its people as a common for taking and cultivating fish. . . Such an appropriation is in effect nothing more than a regulation of the use by the people of their common property. The right which the people of the State thus acquired comes not from their citizenship alone, but from their citizenship and property combined. It is, in fact, a proprietary right, and not a mere privilege or immunity of citizenship."⁴

The ownership doctrine was advanced in the subsequent case of Geer v. Connecticut (1896).⁵ In this case, the Supreme Court upheld against a Commerce Clause challenge a statute forbidding the transportation beyond the State of game birds that had been killed within the State. The Court declared that the State, as representative for its citizens who owned in common all wild animals within the State, had the power to control the taking as well as the ownership of game once it was taken. The Court stated, "The common ownership imports the right to keep the property, if the sovereign so chooses, always within its jurisdiction for every purpose."⁶

Subsequent to McCready and Geer, the scope of the doctrine of state ownership was severely limited by the Supreme Court in cases involving wild animals and other natural resources.⁷ The Supreme Court's shift away from the "ownership" theory was made explicit in Toomer v. Witsell (1948),⁸ which struck down as violations of the Commerce Clause and the Privileges and Immunities Clause certain South Carolina statutes which discriminated against out-of-state commercial shrimp fishermen. The Court held that because the State permitted its shrimp to be shipped to other states, the State could not condition such shipments so as to burden interstate commerce.⁹ The Court also rejected the contention that state ownership of the shrimp created an exception to the operation of the Privileges and Immunities Clause. The Court stated, "The whole ownership theory, in fact, is now generally regarded as but a fiction expressive in legal shorthand of the importance to its people that a State have the power to preserve and regulate the exploitation of an important resource."¹⁰ The Court distinguished the McCready case on the following grounds: First, McCready involved fish (oysters) that would remain within the State until removed by man, while Toomer dealt with "free-swimming fish which migrate through the waters of several States."¹¹ Secondly, McCready involved inland waters, whereas Toomer involved the marginal sea.

Toomer was decided one year subsequent to the decision in United States v. California (1947),¹² where the Court had held that the federal government had dominion over the marginal sea and that the States had no ownership rights therein. However, in 1953 through the Submerged Lands Act Congress quitclaimed to the States title to and ownership of the submerged lands and natural resources in the marginal sea.

Although the SLA contains broad language establishing exclusive state ownership of all wild animals and other natural resources in the marginal sea, the Supreme Court has construed the rights granted by the SLA quite narrowly. In Douglas v. Seacoast Products (1977),¹³ the Court rejected the argument that Virginia's "ownership" of fish swimming in its waters empowered the State to forbid fishing by non-residents in federally licensed ships. The Court stated,

"A State does not stand in the same position as the owner of a private game preserve and it is pure fantasy to talk of 'owning' wild fish, birds, or animals, neither the State nor the Federal Government, any more than a hopeful fisherman or hunter, has title to these creatures until they are reduced to possession by skillful capture. . . . The 'ownership' language of cases such as those cited by appellant must be understood as no more than a 19th-century legal fiction expressing 'the importance to its people that a state has the power to preserve and regulate the exploitation of an important resource.' (Citing Toomer) Under modern analysis, the question is simply whether the State has exercised its police power in conformity with the federal laws and Constitution."¹⁴

The Court therefore characterized a state's interest in its natural resources not as an "ownership" interest, but as a police power to control and regulate its natural resources.

Subsequent to Douglas, however, the Supreme Court recognized in Baldwin v. Montana Fish and Game Comm'n (1978)¹⁵ that the ownership doctrine of McCready and Geer, has some remaining validity.

The Court declared, "the fact that the States' control over wildlife is not exclusive and absolute in the face of federal regulation and certain federally protected interests does not compel the conclusion that it is meaningless in their absence."¹⁶

Whatever vitality the ownership doctrine might have is unclear, however. The ownership doctrine was most recently rejected by the Supreme Court in Hughes v. Oklahoma (1979).¹⁷ There the Court struck down, as violative of the Commerce Clause, an Oklahoma statute which prohibited transportation out of the State of minnows caught within the State. The Court expressly overruled the Geer case, and held that state regulation of wild animals is subject to the same general rules concerning interstate commerce which apply to state regulation of any other resource.

To summarize, it appears that the doctrine of state ownership has been suffering a lingering death. It is clear that a state's "ownership" of its wildlife and other resources cannot justify any undue burden to interstate commerce.¹⁸ A state's control over its resources does not preclude a proper exercise of federal power.¹⁹ State regulation of its natural resources cannot on the basis of "ownership" interfere with a non-resident's "fundamental" rights protected by the Privileges and Immunities Clause.²⁰ Finally, a state may not allocate its resources in a manner which offends the Equal Protection Clause of the Fourteenth Amendment.²¹

FOOTNOTES

1. See, Baldwin v. Montana Fish and Game Comm'n, 436 U.S. 371, 405 (1978) (Brennan, J., dissenting).
2. 94 U.S. 391 (1877).
3. The previous case of Corfield v. Corgell, 6 F. Cas. 546 (no. 3,230) (CCED Pa 1825) had held that access to oyster beds owned by New Jersey could be limited to New Jersey residents.
4. 94 U.S. at 395.
5. 161 U.S. 519 (1896).
6. 161 U.S. at 530.
7. In West v. Kansas Natural Gas Co., 221 U.S. 229 (1911), the Court invalidated as violative of the Commerce Clause an Oklahoma statute which was designed to prohibit the transportation beyond the State of natural gas produced by wells within the State. The Court stated that the welfare of the Nation transcends that of any State, and all the States benefit by a sharing of each States' resources. West was held to be controlling in Pennsylvania v. West Virginia, 262 U.S. 553 (1923), where a West Virginia statute that required natural gas companies within the State to satisfy all fuel needs of State residents before transporting any natural gas out of the State was held to violate the Commerce Clause. West and Pennsylvania thus established that a State's ownership of a resource within its boundaries was an insufficient basis for preserving the benefits of the resource for that State's residents.

The state ownership theory of McCready and Geer was further eroded in subsequent cases involving regulation of wild animals. In Missouri v. Holland, 252 U.S. 416 (1920), the State of Missouri attacked the Migratory Bird Treaty between the United States and Canada on the ground that it interfered with the State's rights pursuant to its status as owner of the wild animals within its boundaries. The Treaty was upheld as a valid exercise of federal power. The Court declared that "[t]o put the claim of the State upon title is to lean upon a slender reed," and noted that "wild birds are not in the possession of anyone; and possession is the beginning of ownership." 252 U.S. at 454.

Foster-Fountain Packing Co. v. Haydel, 278 U.S. 1 (1928), further undermined the state ownership doctrine. The Supreme

Court struck down as violative of the Commerce Clause a Louisiana statute which prohibited the transportation beyond the State of shrimp taken in Louisiana waters until the heads and shells had been removed. In distinguishing the Geer case, the Court made the following comment:

"As representative of its people, the state might have retained the shrimp for consumption and use therein. . . . But by permitting its shrimp to be taken and all the products thereof to be shipped and sold in interstate commerce, the state necessarily releases its hold, and, as to the shrimp so taken, definitely terminates its control. 278 U.S. at 13.

Therefore, where the resources were bound for interstate commerce, the State's "ownership" of the resource could not serve as a justification for the State's economic discrimination.

8. 334 U.S. 385 (1948).
9. The Court cited Foster-Fountain Packing Co. v. Haydel, note 7, supra.
10. 334 U.S. at 402.
11. 332 U.S. 19 (1947); See, Section II-B, supra.
12. See Section II-B, II-C, supra.
13. 431 U.S. 265 (1977).
14. Id. at 284.
15. 436 U.S. 371 (1978).
16. 436 U.S. at 386. In the subsequent case of Hicklin v. Orbeck, 437 U.S. 518 (1978), the Court struck down as violative of the Privileges and Immunities Clause, an Alaska statute which required that residents be preferred for jobs related to Alaska's oil and gas resources. The Court concluded that the connection between the statute's requirements and the State's ownership of its oil and gas was too attenuated.
17. 441 U.S. 322 (1979).
18. Hughes v. Oklahoma, 441 U.S. 322 (1979); Foster-Fountain Packing Co. v. Haydel, 278 U.S. 1 (1928); Pennsylvania v.

West Virginia, 262 U.S. 553 (1923); West v. Kansas Natural Gas, Co., 221 U.S. 229 (1911).

19. Douglas v. Seacoast Products, Inc., 431 U.S. 265 (1977); Kleppe v. New Mexico, 426 U.S. 529 (1976); Missouri v. Holland, 252 U.S. 416 (1920).
20. Hicklin v. Orbeck, 437 U.S. 518 (1978); Toomer v. Witsell, 334 U.S. 385 (1948).
21. Takahashi v. Fish and Game Comm'n, 334 U.S. 410 (1948).

D. COMMON LAW AND STATE LAW RESTRICTIONS UPON STATE AUTHORITY

1. The Public Trust Doctrine/Hawaii State Constitution

Q: What are the common law and state law restrictions upon the state's authority over its offshore waters?

A: The public trust doctrine requires that any allocation of public ocean resources to private interests must provide a net public benefit and must not significantly impair public ocean uses.

The public has an interest in navigable waters which is different and more extensive than its interest in dry lands. The United States Supreme Court has stated,

"[L]ands under tide water are incapable of cultivation or improvement in the manner of lands above high water mark. They are of great value to the public for the purposes of commerce, navigation and fishery. Their improvement by individuals, when permitted, is incidental or subordinate to the public use and right. Therefore the title and the control of them are vested in the sovereign for the benefit of the whole people."¹

This sovereign title has been recognized at common law since Roman times: "As long ago as the Institutes of Justinian, running waters, like the sea, were res communes - things common to all and property of none."² Trade, fishing and travel depended upon free access and communal use of waterways. Therefore, as one commentator has succinctly stated, "where the water went, the public was free to go."³ This public right has historically risen and fallen,⁴ but today is strongly asserted by U.S. courts as the "Public Trust Doctrine."

A legal scholar has remarked, "the common law develops out of problems which have arisen."⁵ The public trust doctrine is such a development. The doctrine has lately been recognized as an important common law and sometimes statutory means of protecting "public ownership and control of critical state resources,"⁶ at a time when many of these resources have become threatened or more scarce. Private and public demand for coastal resource use

"is burgeoning, supply is recognized as finite, and concepts of public interest, multiple use of land and water, and governmental intervention via the police power have come very much into vogue."⁷

The public trust doctrine today is seen as conferring "upon the courts a basis for intervention in the competition between private industry and the public interest for a given resource."⁸ The doctrine "is essential to environmental law and provides a cohesive overview to all kinds of environmental problems and potential solutions."⁹ The doctrine has been called "a medium for democratization,"¹⁰ a "philosophical conception of natural law,"¹¹ and a "classic example of bad law creating hard cases."¹²

The concern of this report is to determine whether the public trust doctrine would prevent, nullify or restrict the implementation of an ocean leasing program in Hawaii. The public trust doctrine has obvious application in a state where ocean and shore are the locus of the state's most important commercial and recreational activities. Hawaii is, moreover, dependent upon ocean commerce for virtually all of its energy and material needs. Thus any obstruction to navigation would be a serious matter.

To answer questions raised by the public trust doctrine, the history and the functional use of the doctrine must be described. Public trust concepts developed in English common law in association with the growth of commerce.¹³ English courts transformed the concept of communal property rights into a public servitude over navigable waters which guaranteed free navigation, commerce and fishing. The King owned the waters and submerged lands within the kingdom, but "the public had certain important rights in the foreshore, which rights superseded any conflicting private rights, including those claimed by the King. The King was trustee of these public rights, but he could not appropriate them to his own use."¹⁴

The public trust doctrine was directly assimilated into U.S. law from English common law. Congress and State legislatures

succeeded to the role the English doctrine assigned to the King.¹⁵ The doctrine has found expression in both federal and state courts, but "the scope and the limits of the public trust doctrine remain uncertain."¹⁶

This uncertainty is largely due to the way in which the public trust doctrine has been used by U.S. courts. Theory and practice seem to part. One unifying view is that the doctrine has an "underlying economic nature" which shows the courts implementing "a rough cost-benefit analysis . . . to promote the public welfare policy explicit in the trust doctrine."¹⁷ Public trust judgments are here seen as resource allocation decisions, with the courts playing "a significant role in reconciling the increasing and conflicting pressures now being placed on coastal zone resources."¹⁸ In this view, the public trust doctrine "will only be used to the extent that it will operate to achieve the appropriate economic result, and . . . in the case where it will not achieve such result it will not be applied."¹⁹

The doctrine appears amorphous also because "it is not so much a substantive set of standards for dealing with the public domain as it is a technique by which courts may mend perceived imperfections in the legislative and administrative process."²⁰ These imperfections center around "the tendency of the legislature and of administrative agencies to subordinate diffuse public advantages to pressing private interest."²¹ However, even strong advocates of public trust applications describe the doctrine as only "a potentially broad tool" and state that "the cases, with a few exceptions, have not yet defined the public trust concept in the context of our modern concern for protection of the environment."²² While it is easy to state the fundamental rule that the public trust in navigable waters and other protected resources "cannot be substantially impaired or surrendered by reallocation," it seems that "at present there is little judicial precedent to provide guidelines for what constitutes a substantial impairment of the public trust."²³

The cost-benefit and "the court of redress" analyses both suggest a certain arbitrariness is inherent in the use of the doctrine. As one commentator has noted, "The court often gives no indication of the route it has taken to make its decision and, in most cases, it is probably fair to say that the judge makes a guess as to the projected costs and benefits of a particular program."²⁴ Another commentator, a public trust advocate, stresses that public trust concepts "serve a purely negative function . . . these concepts are at best a stop-gap, a brake on precipitous and ill-conceived legislative action."²⁵ It might be argued that only gross abuse would trigger the public trust doctrine. A public trust advocate has stated that judicial intervention in "resource allocation fields occupied by legislative or administrative action is likely to remain cautious . . . Courts lack technical expertise, and a particular challenged legislative or administrative scheme may not appear sufficiently unreasonable to justify intervention by a court with a crowded docket".²⁶

Nonetheless, recent State court cases in Hawaii and elsewhere have vigorously affirmed the public trust doctrine and broadened its application.²⁷ In Hawaii, courts have used the public trust doctrine as a basis for developing "substantive protections for coastal resources to prevent their misuse by private parties, to exercise control over government activities, and to balance conflicting private, government, and public interests."²⁸ One commentator concludes that "in Hawaii it will be difficult, although not impossible, to grant an exclusive fishing right to a private entity in a traditionally public area."²⁹ Analysis of the public trust doctrine's full rationale and application indicates, however, that an ocean leasing program is not only permissible within public trust precepts, but that a well-planned leasing program may be considered a positive means of furthering the basic objectives of the trust.

The first United States case to raise the public trust issue, Arnold v. Mundy (1821),³⁰ established the parameters of the public trust debate. The court distinguished the two aspects of state sovereignty discussed earlier in this section, proprietary rights and police powers, and clearly subordinated the former to the latter. From the perspective of the public trust doctrine, these two aspects of sovereignty are described as the jus privatum (state or private property right) and the jus publicum (state police power or inherent public right).³¹ The Arnold court asserted that navigable waters were inalienably subject to the jus publicum.³²

The United States Supreme Court supported the view of Arnold in Martin v. Waddell (1842)³³ and in several later cases which confirmed the title and the jurisdiction of the various states over tidelands and inland waters.³⁴ The public trust nature of these resources became the justification for declaring ownership to be an incident of state sovereignty.³⁵ As a result, disposition of tidelands, and preservation of the public trust impressed on this coastal resource, became matters of state law.³⁶ Since the passage of the Submerged Lands Act by Congress in 1953, control and proprietary rights over offshore submerged lands to the limit of state ocean boundaries has also been clearly vested in the states.³⁷

Although not directly so stated, the tidelands "title" cases carry a strong suggestion that trust resources cannot be alienated. A direct judicial expression of such a view is found in Aguino v. Hegelman (1918).³⁸ The court there stated,

"I deny that the legislature has the power, either by direct action or otherwise, to give or grant to any person rights which are the property of all the citizens of this commonwealth, and which the legislature holds in trust for the common use and does not hold in its own right or as proprietor."³⁹

Some commentators have thus argued that the restriction placed upon resources impressed with the public trust is absolute. In this view trust resources cannot be conveyed to private interests

for any purpose, but must remain always equally available to all citizens.⁴⁰

The case law overall, however, and long-established public policies do not support such an absolutist view.⁴¹ It must be noted that public trust case law widely diverges from one jurisdiction to another. Precedents established in one state are not binding on others, and as noted previously, the United States Supreme Court has stated that in matters concerning disposition of trust resources, state law controls.⁴² A proper characterization of the case law might be that "where public trust protections have been applied, courts have acted . . . to enjoin activities that would unreasonably curtail public benefits."⁴³

This intermediate position, lying between trust absolutism and a view that the ocean is legally no different than any other publicly owned resource,⁴⁴ has received the most consistent judicial recognition. It "takes into account both legislative fallibility and economic necessity, acknowledging that efficient utilization of coastal resources often requires private development and ownership . . . this view would require that any diversion of a coastal resource from public to private control be demonstrably in furtherance of the public's interest in the particular resource, subject to reversion to the state whenever the disposition ceases to be beneficial to the public."⁴⁵

A highly respected environmental law scholar has recently stated,

"[I]t is inconceivable that the trust doctrine should be viewed as a rigid prohibition preventing all dispositions of trust property, or utterly freezing as of a given moment of time the uses to which those properties have traditionally been put. For it can hardly be the basis of any sensible legal doctrine that change itself is illegitimate."⁴⁶

The leading United States Supreme Court public trust case, Illinois Central Railroad v. Illinois (1892),⁴⁷ demonstrates this tempered

view. Illinois Central established basic public resource management propositions which are found restated in contemporary public trust decisions.⁴⁸ The Supreme Court specifically ruled that the Illinois Legislature, which in a previous session had passed virtually the entire harbor of Chicago in fee simple to a private corporation, could revoke this egregious grant of a trust resource. The Court declared that the original grant was an unallowable abdication of sovereign power, and therefore "void on its face."⁴⁹ The Court enunciated the principle that,

"[T]he State can no more abdicate its trust over property in which the whole people are interested, like navigable waters and soils under them . . . than it can abdicate its police powers in the administration of government and the preservation of peace."⁵⁰

Illinois Central did not bar trust resources from being granted to private users, however. Rather, the Court affirmed positively the rule that the state could in fact "alienate both the jus privatum and the jus publicum in lands which are subject to the public trust doctrine if the alienation serves a public purpose."⁵¹

The concern of the Court focused on (1) the purpose of the grant and (2) the extent of the grant. Three substantive tests, all of which must be met for a conveyance of trust resources to be unchallengeable, can be adduced from the Court's opinion in this case. These are:

- (1) Is the use supported by the conveyance necessarily water-related? (Correlatively, is there no alternative site? Does the use further the purposes of the trust?)
- (2) Does the public receive a net benefit as a result of the conveyance?
- (3) May the public continue to use and enjoy the whole of the trust resource without significant loss?⁵²

With regard to the first test, courts in various jurisdictions have ruled that a public easement impressed on specific coastal resources may be abridged and even terminated to further water-related uses of those resources.⁵³ This first test also eliminates certain kinds of uses. The California Supreme Court in recent rulings has held that "under the trust tidelands may be filled and used for commercial and recreational purposes but not residential purposes."⁵⁴ That court indicated "that reclamation for general purpose county and municipal buildings and governmental housing projects does not further trust purposes."⁵⁵

Water-relatedness was significant in Boone v. Kingsbury (1928),⁵⁶ a particularly important case for judging what impact the public trust doctrine might have on an ocean leasing program established to support OTEC, mariculture and other fixed-location marine operations in Hawaii. Boone declared oil drilling leases on tide and submerged lands in California to be valid. The Court specifically denied the contention that the ocean leasing program established by act of the California Legislature in 1923 violated statutory and common law assertions of the public trust doctrine found in California state law and in federal law.⁵⁷

Boone shows clearly how courts may disregard public trust theory, which "characterizes a given right as either being fully protected or as not being protected at all,"⁵⁸ in favor of pragmatic cost-benefit considerations. The activities and rights to be protected under the trust doctrine inevitably conflict. They cannot all be absolute. The Court in Boone, faced with the necessity of ordering priorities, declared oil leases to be consistent with the trust purpose of commerce, and therefore legitimate despite any derogation of other trust purposes which might result. No alternative existed "to reduce to useful purposes oil, gas and mineral deposits reposing beneath the ocean's bed" but to accept "the development of oil fields wheresoever found to exist."⁵⁹ Offshore oil leases thus met both aspects of the first substantive

test of Illinois Central. They were legitimately water-related, and they furthered the trust.

Oil leasing also met the second test, according to the court. Boone has been characterized as "probably the most overt example of cost-benefit balancing"⁶⁰ to be found in public trust law. The court described gasoline as "the power that largely moves the commerce of nations over lands and sea"⁶¹ and concluded that "the development of the mineral resources, of which oil and gas are among the most important, is the settled policy of state and nation, . . . the courts should not hamper this manifest policy except upon the existence of most practical and substantial grounds."⁶² To the Boone court, the net benefit to the public of offshore oil leasing was obvious.⁶³

The third test presented the most serious questions to the court in this particular case. However, the court dismissed objections that offshore oil production would unreasonably interfere with navigation and fishing. The court stated,

"No harm can come to fisheries under the protective provisions of the act, as it must be presumed that the provisions of the act will be observed, and, if not observed, the general laws enacted for the protection of fish and sea life against the pollution of waters by penalizing persons or corporations, who cause or are responsible for deleterious substances escaping into the public waters of the state, are amply sufficient to protect sea life against serious injury or destruction.

"Nor is there any substantial cause of alarm lest the 1,200 miles of our sea coast will be barricaded by 'a forest of oil derricks,' which will interfere with commerce or navigation. The state may at any time remove structures from the ocean erected by its citizens, even though they have been erected with its license or consent, if it subsequently determines them to be preposterous or finds that they substantially interfere with navigation or commerce."⁶⁴

The court judged that the public would suffer no significant loss of trust resources, and clearly distinguished this leasing program's

methods and results from the broad alienation of trust resources censured by the United States Supreme Court in Illinois Central. The court noted:

"The license or privilege authorizing the permittee to prospect and mine tidelands is denominated by the act a lease, but in practical effect it strongly partakes of the character of a contract to prospect or mine said tidelands on a share or percentage basis. In no sense does the state part with title to its tidelands. More than this, it expressly 'reserves from sale except upon a rental and royalty basis' all coal, oil, oil shale, phosphate, sodium and other mineral deposits in lands belonging to the state, and persons authorized by said act to prospect for, mine and remove such deposits are restricted to as small a portion of the surface area as may be reasonably required for mining and removing such deposits."⁶⁵

The court thus upheld the statute, stating:

"With full knowledge of the subject, the Legislature found that there was nothing in the drilling and operation of oil wells conducted in the manner provided by the statute that would substantially impair the paramount public interest in the lands and water remaining, and upon a consideration of the case we find nothing that would justify us in holding that the finding of the Legislature, which is conclusive in such matters is not fully supported by the facts."⁶⁶

The same reasoning on all points applies to ocean leases for OTEC and mariculture activities, and has been so applied to mariculture activities in California.⁶⁷ Oil leasing programs in other states have also received court approval,⁶⁸ and at least one of these states, Florida, has subsequently provided specifically for the leasing of offshore areas for the conduct of mariculture activities.⁶⁹ The Florida statute permits the granting of exclusive use of the ocean bottom and the vertical water column to the extent required by such activities.⁷⁰

Some states have instituted general ocean leasing programs. The State of Alaska has legislation (ALASKA STAT. Section 38.05)

which "contemplates a wide range of exclusive leasing arrangements for the carrying out of what would otherwise be competing development activities. The legislation covers land and coastal waters and is clearly premised on the concept of allocating areas in order to maximize both public and private advantage."⁷¹ The State of Oregon has a submerged and submersible lands leasing program which has withstood specific legal challenge on public trust grounds.⁷² This program will be discussed more fully below.

The landmark Boone decision has not been controverted in recent public trust cases, despite the emphasis in these cases upon (1) subjecting private uses of ocean resources to public rights and (2) requiring equal and open allocation of resources.

Upon this first point, the California Supreme Court in Marks v. Whitney (1971)⁷³ declared a public servitude over all California tidelands.⁷⁴ The court also formally recognized both recreational activities, and preservation of tidelands in their native state, as uses additionally protected by the public trust doctrine.⁷⁵ But the court also noted, "In administering the trust the state is not burdened with an outmoded classification favoring one mode of utilization over another."⁷⁶ Marks reiterated the conclusion of Colberg, Inc. v. State of California ex rel. Dept. Pub. Wks.⁷⁷ that the selection of one trust use over another is a matter committed to the discretion of the Legislature, or of an agency to which the Legislature has delegated its discretion.⁷⁸ In Marks, the court stated,

"The power of the state to control, regulate and utilize its navigable waterways and the lands lying beneath them, when acting within the terms of the trust, is absolute . . . It is a political question, within the wisdom and the power of the Legislature, acting within the scope of its duties as trustee, to determine whether public trust uses should be modified or extinguished."⁷⁹

The California State Department of Justice views the Marks decision as holding that "mariculture, as much as port and a

variety of other uses, is appropriate for lands held subject to the public trust."⁸⁰ The latest California public trust case, City of Berkeley v. Superior Court of Alameda (1980),⁸¹ extends the application of the public trust doctrine. Certain tidelands had been granted by the State Legislature to private owners prior to the prohibition against such practice incorporated into the California State Constitution in 1879. In City of Berkeley, the California Supreme Court ruled that even these resources were subject to the public servitude guaranteed by the public trust doctrine.⁸² Nonetheless, the court continued to recognize the authority of the Legislature to absolutely dispose of tidelands and to judge for itself what uses of trust resources best served the public interest.⁸³ As in Illinois Central, the public trust doctrine was held to restrain the Legislature only from substantially impairing the ability of succeeding Legislatures to deal effectively with trust resources.⁸⁴

Upon the second point, equal allocation of trust resources, the Supreme Court of New Jersey, in Neptune City v. Avon-By-The-Sea (1972),⁸⁵ held that "the public trust doctrine prohibits the state and its subdivisions from discriminating among New Jersey citizens in foreshore access regulations."⁸⁶ The court specifically ruled that a municipality could not charge non-residents higher fees for use of an upland beach area than it charged its own residents. The Neptune City judgment harks back to the original New Jersey public trust case, Arnold v. Mundy, which treated the public trust "as beyond even sovereign infringement."⁸⁷ A strong supporter of the decision nonetheless states,

"[Although] any tidalwater resource allocation or claim that impairs or does not supply the common interest of the state's citizens would be a discrimination violating the public trust and would be actionable by any injured state citizen . . . Arnold and Neptune City permit legislation licensing, leasing or conditionally granting possession of parcels of foreshore, ocean beach or tidalwater bedlands, if consistent with the public interest.

Such an allocation would not favor the grantee over other citizens, but choose him as the mechanism of an enhancement of the common benefit."⁸⁸ [Emphasis supplied]

These recent court decisions all signify "an increasing judicial concern that a government grant of authority to a private interest to make land and resource use decisions may result in the broad public resource uses being subordinated to that private interest."⁸⁹ This reflects a basic shift in the perception of the cost-benefit ratio associated with the private use of public resources. Early legislative decisions to raise revenues by alienating public lands,⁹⁰ and to "achieve desired social goals, in the absence of an adequate tax structure, by utilizing private capital,"⁹¹ have been re-evaluated by contemporary critics as "legislative acquiescence to pressure groups or indifference [which] has allowed enormous tracts of shore to pass into the hands of developers with little thought of ecological or social consequence."⁹²

It is clear that as a result courts today take a strict view concerning what uses of trust resources will provide "an enhancement of the common benefit." There appears "a strong presumption that the cost to the public resulting from the termination of the trust easements outweighs the benefits to be gained from the termination."⁹³ The cost-benefit ratio, however, changes as the location of the "private" activity moves offshore and away from prime public use areas.⁹⁴ An ocean leasing program supporting OTEC and mariculture operations in Hawaii which did not involve the use of beaches, highly-prized recreational areas, reefs, or shorefront lands (the resources primarily at issue in the public trust decisions) still must be judged on net benefits to the public.

From the foregoing analysis, the validity of an ocean leasing program in Hawaii under the terms of the public trust doctrine would appear to depend upon two closely interrelated determinations. The first is the prerogative of the Legislature to establish such a program. The second is the judgment that such a program serves the public interest.

The authority of the Legislature to act as trustee for the public with regard to the use of trust resources has been shown to be little bounded. Exercising its proprietary rights and its police powers, the State may take virtually any action it deems necessary to protect the trust.⁹⁵ Grants of user privileges to private entities may be made when in furtherance of the purposes of the trust. Such grants have not been invalidated by the courts.⁹⁶

No state has claimed a right to dispose of or lease public trust resources without any regard for navigation, or for no public purpose.⁹⁷ An ocean leasing program in Hawaii would have to carefully recognize limits placed by the need and right of navigation. This right is not unlimited, but is subject to lawful state regulation.⁹⁸ One commentator thus states that the courts "would have no difficulty restricting the public right of navigation, under the public purpose doctrine, if a more desirous public right were in conflict with it."⁹⁹ Again, the judgment of legislatures and of government agencies on conflicts with navigation has been taken by courts as conclusive.¹⁰⁰

Some states have constitutional or statutory provisions which appear to restrict any ocean leasing program which would authorize exclusive use of ocean areas. Oregon, for example, has incorporated the concept of the jus publicum into its statutes,¹⁰¹ and an early court case held that a grant of an exclusive right to fish in a particular area would violate the state Constitution "privileges and immunities" clause.¹⁰² In most states, however, the legislature is not so restricted:

"The lawmaking bodies of the several states, in the absence of constitutional provisions affecting the question, have generally been held to have the power of granting exclusive rights of fisheries in the public waters within the jurisdiction of the state."¹⁰³

Even in Oregon, the State Supreme Court recently upheld, in Brusco Towboat Co. v. State of Oregon (1978),¹⁰⁴ a statute establishing a leasing program for industrial and commercial water uses

including log booms, marinas, houseboat moorages, private docks and aquatic cultivation facilities.¹⁰⁵ The court found "no provision in the State Constitution which denies to the Legislature (or to the Board) the power to require occupiers of state-owned submerged and submersible lands to enter into leases and compensate the State for their use."¹⁰⁶ Since this leasing program is closely analogous to ocean leasing for OTEC and mariculture operations, it is important to note that the court stated,

"[I]t is clear from the rules themselves that the lease program does not purport to divest the legislature or the Board of the state's power to protect the rights of the public in the state's navigable waters or to pursue other government objectives."¹⁰⁷

Finally, the court ruled the leasing program did not violate the provision of the Oregon Admission Act which states that "navigable waters of said State shall be common highways and forever free." The Court stated that the intent of this provision is protect the flow of commerce and vessels. Therefore,

"The leasing program does not violate the clause as thus construed. It does not impose a charge for the use of the navigable waters as a highway, or tend to limit the privilege of navigation to any particular class of persons or vessels. It merely imposes a charge upon those who wish to occupy, to the exclusion of others, portions of the state's lands in pursuit of their own business activities."¹⁰⁸

The State Legislature in Hawaii would appear to have full authority to implement an ocean leasing program, if it so chose. There is no constitutional impediment to an ocean leasing program. Article XI, Section 6 of the Hawaii State Constitution, as amended in 1978, specifically excepts fish ponds, artificial enclosures, and state-licensed mariculture operations from fisheries in seawaters which shall be free to the public. OTEC facilities do not receive any formal constitutional recognition, but given the rationales of Boone in California, Brusco Towboat Co. in Oregon, and the

other leading public trust cases, there appears to be sufficient precedent to assert that ocean leasing legislation which included other fixed-location ocean uses, such as OTEC, would not be precluded. Such legislation would of course have to meet the substantive tests imposed on legislative grants by Illinois Central.

Article XI, Section 6, mandates that the Legislature set guidelines for the licensing of mariculture activities in state waters. The State Legislature is specifically required by Article XI to "protect the public's use and enjoyment of the reefs," but appears otherwise to not be constitutionally restricted in its judgment on the issue of mariculture or general ocean leasing.

Article XI, Section 6 states that "All fisheries . . . shall be free to the public." However, this cannot represent an absolute injunction against the use of ocean waters for activities other than fishing. Such an interpretation would obviously lead to unwanted results. The State could not approve any alteration in harbor lines, any landfill plans or any mooring easements, because each would interfere with "fisheries." As is argued throughout this subsection, the protections (both at law and in statutes) afforded any one ocean activity need to be interpreted in context. There are numerous other activities also afforded varying degrees of protection, and in a clash, all cannot be absolutely protected. The decision as to which activities are to take precedence in which locations rightfully belongs to the Legislature.

The framers of the present Article XI appear to have been concerned, as was the United States Congress in passing the Submerged Lands Act, with optimal resource utilization.¹⁰⁹ This is the very core of the public trust doctrine, according to a leading public trust advocate, who urges that "We . . . integrate legal doctrine with the fundamental principles of intelligent resource management."¹¹⁰ The Committee on Environmental, Agriculture, Conservation and Land at the 1978 Constitutional Convention recognized the need to preserve Hawaii's natural resources, yet saw ocean

leasing for mariculture as desirable. The Committee defined "conservation" as "the protection, improvement, and use of natural resources according to principles that will assure their highest economic or social benefits."¹¹¹ [Emphasis supplied]

The Committee determined that the "growing concern and awareness of Hawaii as being overly dependent on outside sources for among other resources, food and energy"¹¹² should be constitutionally recognized. It therefore recommended amending Article XI, Section 1 of the Hawaii State Constitution to read:

"[F]or the benefit of present and future generations, the State and its political subdivisions shall conserve and protect Hawaii's natural beauty and all natural resources, including land, water, air, minerals and energy sources, and shall promote the development and utilization of these resources in a manner consistent with their conservation and in furtherance of the self-sufficiency of the State." [Emphasis added]

The Committee also stated that "testimony indicated that the state's future in the area of commercial fisheries would be in the direction of sea farming rather than traditional fishing operations."¹¹³ The Committee therefore recommended "in order to enable the development of sea farms," that "fisheries developed as a result of a 'state-licensed marine operation'" be excluded from public fisheries,¹¹⁴ which must be free to the public. The Committee concluded:

"[T]he possibility that the public may be adversely affected by the development of sea farms was raised. However, after careful consideration, your Committee felt that the provision for state licensing should serve to prevent indiscriminate proliferation of sea farms that would significantly reduce the fisheries open to the public."¹¹⁵

In consideration of these policy findings by the Committee, the approval of Article XI, as amended, by the people of Hawaii in the 1978 General Election, and the corpus of U.S. case law on the public trust doctrine generally, it appears unlikely that any

Hawaii state court would invalidate a legislatively enacted ocean leasing program containing explicit public interest protections. The courts have for the most part deferred to legislative judgment as to whether a specific grant of public trust resources was or was not in the public interest.¹¹⁶ Courts have looked rather to the issues of explicit authorization and sufficient public policy debate prior to such grants. The Massachusetts Supreme Court, for example,

" . . . has not attempted to police decisions concerning the proper use of public trust lands, but has instead developed means for insuring that those who do make the decisions do so in a publicly visible manner. The Court has served notice to all concerned that it will view with skepticism any disposition of trust lands and will not allow them unless it is perfectly clear that the disposition has been fully considered by the Legislature."¹¹⁷

The leasing of ocean waters, as authorized by the State Legislature and carried out pursuant to guidelines established by the Legislature, does not violate the public trust doctrine. This conclusion is reached upon an examination of the relevant case law, and is supported by the vast majority of legal scholars. One such scholar, answering directly the question of whether ocean leasing in Hawaiian waters would violate the public trust doctrine, stated:

"[W]hen you are talking of some [water-related private ocean] use which has a value, I'm perfectly willing to accept the legislative judgment. This is a use you can't have without intruding on other uses. The question is, how do you balance out those competing uses, and that is what legislators are for. I don't see any reason why the courts should have the final word on that kind of conflict."¹¹⁸

Similarly, the Hawaii Supreme Court, in Bishop v. Mahiko (1940),¹¹⁹ described in very strong language the breadth of legislative prerogative:

"The burden of showing that an Act of the legislature is unconstitutional is on the party asserting it. Every enactment of the legislature carries a presumption of constitutional validity and should be upheld by the courts unless it has been shown to be, beyond all reasonable doubt, in violation of the Constitution. Moreover, the facts adduced to show unconstitutionality must be clear and convincing and must show beyond question that the legislature exceeded the limits marked by the Constitution."¹²⁰

The Hawaii Supreme Court in recent years has forcefully applied the ideas behind the public trust doctrine. Older Hawaii public trust cases fall within the mainstream of U.S. public trust law. Absolute state sovereignty is asserted over trust resources, and the concomitant power of the Legislature to determine the proper use and disposition of these resources is recognized. The public trust doctrine was incorporated into Hawaii law in King v. Oahu Railway and Land Co. (1899),¹²¹ which relied squarely upon Illinois Central. The Hawaii Supreme Court there ruled that submerged lands in Honolulu Harbor were "held in trust for the public uses of navigation"¹²² and therefore the state, rather than a railway company, had power to decide what uses of submerged lands would be appropriate.¹²³

The public trust doctrine was also early applied by the Hawaii Supreme Court in Territory v. Kerr (1905).¹²⁴ The court overruled a decree of the Circuit Court dismissing an action by the State to enjoin the construction of a seawall between high and low water tidelines at Waikiki Beach. The court concluded:

"[A]s far as any obstruction can do so it [the seawall] prevents public use of the shore for passage over it and . . . if allowed to go on to completion it would appropriate public territory to private use for no purpose conducive to public interest. Walls and buildings extending seaward beyond high water mark block the right-of-way and furnish no compensatory advantages to the public for purposes of navigation or fisheries."¹²⁵

In its stress on "compensatory advantages," Territory v. Kerr demonstrates the Hawaii court's own use of a basic cost-benefit formula to arrive at a public trust decision. Such judicial reasoning, however valid, makes it difficult to state absolutely that the Hawaii court would judge a contemporary ocean leasing program as providing a net public benefit. Cost-benefit analysis is open-ended, in that judgments of costs and benefits may change, and are to some extent personal and subjective, as noted in both this subsection and the Policy Issues section of this report. Resource allocation judgments will differ from one jurisdiction to another, and from one time to another, as circumstances and expectations change.

Recently the public trust doctrine has provided in Hawaii "a rationale for challenging uses of Hawaii State lands inconsistent with protected public uses."¹²⁶ In McBryde Sugar Co., Ltd. v. Robinson (1973),¹²⁷ the court reinterpreted on public trust grounds the historical and legal principles of Hawaii water law. McBryde has been seen as charting "the legal outline of a future resource regime."¹²⁸ The court has shown that it favors public ownership and use of the shoreline to the maximum extent practicable.¹²⁹

An ocean leasing program should therefore "be formulated so as to be in accord with substantive judicial safeguards on coastal resources."¹³⁰ These safeguards are similar to those formulated by the Massachusetts Supreme Court, and thus include the carrying out of thorough planning analyses to achieve the best allocation of public resources, and "rigorous requirements of statutory explicitness and conformity with statutory procedures in assessing agency actions."¹³¹

The Hawaii Supreme Court has demonstrated a willingness "to employ public policy considerations in regulating key public resources."¹³² The State Legislature should therefore promulgate a direct and explicit statement of public policy concerning priorities in the use of marine resources within the State, as an integral

part of any ocean leasing legislation it might enact. If Hawaii's ocean resources are to be effectively and legally exploited for OTEC, mariculture or any other fixed-location ocean activities, the State Legislature itself must establish that ocean leasing program. This is one mandate of the public trust doctrine.¹³³

The Hawaii State Constitution requires that the Legislature set the guidelines for such a program's implementation, insofar as that program touches mariculture operations. This is a constitutional incorporation of the public trust doctrine, whose standards would apply in any case to require such legislative guidelines for the reallocation of public resources. If the Legislature chooses to provide for leasing of ocean waters for any additional uses, such as OTEC, the public trust doctrine thus operates to require that legislative guidelines be adopted for the establishment of these uses as well. The doctrine also requires that these guidelines function to generate a net public benefit.

Any legislatively mandated ocean leasing program would have to meet the substantive tests established by the United States Supreme Court in Illinois Central and incorporated into Hawaii state public trust law in O.R.&L. Co., and the procedural test of explicitness. Such a program could not threaten to significantly reduce the "fisheries open to the public," obstruct navigation, or interfere with recreational uses of ocean resources. The program would have to provide, for example, that no mariculture operation could be sited off a prized recreational area, such as Sandy Beach. A site inside Kaneohe Bay might be questioned. The overall circumstances, the extent of public restriction, must be weighed individually in each instance of siting but the program itself must contain clear procedures and policy objectives which will guide these individual decisions.

Where interference with existing or other possible ocean uses involves more of a "balancing of competing uses" judgment, the designation of leasable areas, or at least the adoption of criteria

for making such designations, if such designating is to be delegated, becomes a legislative prerogative. The Legislature will have to judge and declare at what point a diminution of public resources, wrought by implementing actions taken under an ocean leasing program, would no longer be affirmatively offset by general benefits accruing to the public from that action.

To prevent a general public trust challenge to ocean leasing legislation, any leasing program should contain clearly stated limits, such as a designation of suitable and unsuitable zones for leasing, or some other planned development formula which would give assurance of the program's bounds. Such planning is not found in the Florida, the California, or the recently enacted Rhode Island mariculture leasing laws; but given the limited offshore space in Hawaii and the very high degree of competition for use of that space, from both a political and a legal point of view a more definite procedure than case-by-case judgment of lease applications appears warranted. The Legislature might direct the Department of Land and Natural Resources to develop a site assessment to specify leasable and non-leasable areas (and leasable for which ocean activities), which could then be ratified by the Legislature. The clarity concerning future development which could be achieved through such planning would mitigate opposition from present ocean resource users, as well as judicial skepticism about the wisdom of reallocating public resources through general ocean leasing legislation.

The Florida mariculture regulations contain a provision requiring that the public be offered some "compensatory advantage" for the loss of specific public resources which are given to private users through the leasing program.¹³⁴ The Hawaii Legislature might consider such a requirement, if it does not feel lease rents and less direct public benefits would guarantee adequate public compensation. If enacted, however, such a requirement should be triggered only in cases of clear public loss, and must be carefully drawn so that an impossible burden is not placed upon a lease applicant.

Finally, public access should be protected to the maximum degree practicable. Provision should be made to guarantee that leases be no more extensive, and the degree of exclusiveness be no broader, than is required by the nature of the operation.

A general leasing law containing such provisions would appear to be insusceptible to a public trust challenge. Specific agency decisions made in implementing the law, however, would always remain open to attack. The Hawaii State Constitution, Article XI, Section 9, "Environmental Rights," states:

"Each person has the right to a clean and healthful environment, as defined by laws relating to environmental quality, including control of pollution and conservation, protection and enhancement of natural resources. Any person may enforce this right against any party, public or private, through appropriate legal proceedings, subject to reasonable limitations and regulation as provided by law."

Administrative guidelines must therefore be clear, and administrative agencies must follow these guidelines rigorously. Many public trust cases have centered upon improper agency procedures rather than upon authorizing statutes.¹³⁵

These strictures do not appear prohibitive. A leasing program can be adopted which balances all competing ocean uses to public advantage, excluding or seriously interfering with no one use. That this is desirable and possible has been stated well by a prominent land use planner:

"When there is an absence of reliable regulatory controls and when real or imagined incompatibilities exist between any two or more water using activities which normally see themselves as being in competition with one another for the right to use a water area, anxiety will be felt by those engaged in the most vulnerable activity. This will usually lead to legislative effort to totally prohibit the activity which gives rise to the threat.

"The key, as already suggested, is allocation of suitable water areas to each incompatible competing interest. Thus you avoid or at least minimize conflict arising out of the incompatible nature of their respective activities. . . . But just as landowners have come to accept the legitimacy and value of allocating land use activities to those areas best suited to the carrying out of a particular activity, competing water use activities must come to view offshore water areas in terms of allocation--an allocation with both vertical and horizontal dimensions. This view alone can both remove conflict and preserve the long-run existence and viability of each of these respective activities."¹³⁶

The State of California, as an example, has recently taken such a positive approach with the passage of the California Aquaculture Development Act (CADA).¹³⁷ This Act authorizes the State Department of Fish and Game to identify coastal sites it deems appropriate for aquaculture, and directs the State Coastal Commission and local government to reserve these sites for aquaculture uses wherever possible.¹³⁸ The Act declares that "it is in the interest of the people of the state that the practice of aquaculture be encouraged in order to augment food supplies, expand employment, promote economic activity, increase native fish stocks, enhance commercial and recreational fishing, and protect and better use the land and water resources of the state."¹³⁹ The Act specifically identifies "salt-water" aquaculture, or mariculture, as a coastal-dependent use which should be encouraged.¹⁴⁰

The California legislation also establishes an aquaculture advisory commission to develop and recommend criteria for identification and allocation of those areas or sites determined to be suitable for aquaculture.¹⁴¹ Very importantly, the bill provides \$50,000 to carry out the purposes of the Act.¹⁴² This substantial and concrete program is particularly noteworthy in that, despite the passage of a mariculture law in 1971, in California until the mid-1970's "planning policy with respect to aquaculture was non-existent."¹⁴³

Aquaculture activities in California have been characterized as "a hidden force in the economy of the state" which has clear potential to become a significant "contributor to the economy . . . (and) a major food producer that will have a national and international impact."¹⁴⁴ These potentials have also been recognized in Hawaii, the first state to prepare a comprehensive statewide aquaculture development plan.¹⁴⁵

The possible economic benefits of a "Blue Revolution,"¹⁴⁶ as well as the possible benefits of an OTEC facility come "on-line," place attention on the "underlying economic nature" of the public trust doctrine. At issue, as in the Boone case, is not a formal doctrine containing absolute injunctions against alienation of public resources, but a policy judgment to be made by the Legislature concerning relative priorities to be set in the use of ocean resources. What order of priorities will optimally advance the public interest, broadly defined?

The view is commonly expressed by public trust advocates that the ocean ought to be res communes, as it was under Roman law. However, even the Romans granted exclusive ocean fishing privileges.¹⁴⁷ The courts have applied the public trust doctrine to bring about practical, socially useful resolutions of use-conflicts. Public and private users of trust resources develop certain expectations about their use of these resources. The function of the public trust concept "as a legal doctrine is to protect such expectations against destabilizing changes."¹⁴⁸ The public trust doctrine does not enjoin the Legislature from enacting ocean leasing legislation. It does provide, however, that "[w]here traditional expectations must give way to new techniques or new needs, the transition must be as evolutionary (rather than revolutionary) as the new needs will permit."¹⁴⁹

With the development of mariculture, the "legal tradition which treats all fishermen as predators of public property"¹⁵⁰ will no longer apply. In such circumstances a recognition of private

property rights will be evolutionary rather than revolutionary¹⁵¹ OTEC and mariculture are by nature conservative ocean uses which do not "use up" resources; they produce gains in resources, at the cost of ocean space.

In Hawaii, tradition and custom have long supported conservative ocean resource uses -- fish ponds, artificial enclosures and exclusive fishing rights in ocean areas (konohiki rights) have been recognized in Hawaiian law since its first codification in 1840. This is a unique historical situation which adds a further dimension in Hawaii to the issue of ocean leasing. Konohiki and native Hawaiian rights are therefore examined in the following subsection.

FOOTNOTES

1. Shively v. Bowlby 152 U.S. 331, 352 (1893).
2. United States v. Gerlach Livestock Co., 339 U.S. 725, 744 (1950). In City of Berkeley v. Superior Court, 606 P. 2d 362, 364 (1980), the California Supreme Court states: "The doctrine that the public owns the right to tidelands . . . originated in Roman law, which held the public's right to such lands to be 'illimitable and unrestrainable' and incapable of individual exclusive appropriation."
3. David Nelson, "State Disposition of Submerged Lands Versus Public Rights In Navigable Waters," 3 Natural Resources Lawyer (1970), p. 493.
4. Note, (Author: Joseph Sax) "The Public Trust in Tidal Areas: A Sometimes Submerged Traditional Doctrine," 79 Yale Law Journal (1970), pp. 763-774 (hereinafter cited as Traditional Doctrine).
5. Albert Stone, Ch. 3, "Public Rights in Water Uses and Private Rights in Land Adjacent to Water," in R. Clark, Waters and Water Rights (1967), p. 190.
6. Daniel Finn, "Hawaii Caselaw Relating to Coastal Zone Management," in Hawaii Coastal Zone Management Program Document 6, Vol. 2, Legal Aspects of Hawaii's Coastal Zone Management Program, Daniel Mandelker, ed. (December, 1976) p. H-29.
7. Orlando Delogu, "Land Use Control Principles Applied to Off-shore Coastal Waters, 59 Kentucky Law Journal (1971), p. 607.
8. James Olson, "The Public Trust Doctrine: Procedural and Substantive Limitations on the Governmental Reallocation of Natural Resources in Michigan," II Detroit College of Law Review (1975), p. 161.
9. Id.
10. Joseph Sax, "The Public Trust Doctrine in Natural Resource Law: Effective Judicial Intervention," 68 Michigan Law Review (1970), p. 509.
11. Brusco Towboat Co. v. State of Oregon, Or. App., 567 P. 2d 1037, 1043 (1977), aff'd as modified, Or., 589 P. 2d 712 (1978).

12. Patrick Deveney, "Title, Jus Publicum, and the Public Trust: An Historical Analysis," 1 Sea Grant Law Journal (1976), p. 72.
13. Traditional Doctrine, pp. 768-774.
14. *Id.*, p. 768-769.
15. "The common law, or law of England, upon this subject was brought to this country by our early ancestors and continues to be the law of the land except so far as it may be affected by express grant, by prescription, or by usage." Boone v. Kingsbury, 273 P. 797, 811 (1928). The U.S. Supreme Court, in Hardin v. Jordan, 140 US 371, 382, 11 S. Ct. 808, 812 (1891) states: "This right of the state to regulate and control the shores of tide waters and the land under is the same as that which is exercised by the Crown in England." An extensive discussion of English common law forms the judicial backdrop for a leading public trust case, Shively v. Bowlby, *supra*, note 1. In Hawaii caselaw, the major shoreline public trust case, Territory v. Kerr, 16 Haw. 363 (1905) quotes English law in detail on purprestures, public rights and obstructions to navigation.

Like other aspects of the European heritage, however, the public trust common law has undergone a distinct "Americanization." The definition of "navigable waters," for example, has been drastically changed by American jurists: "English . . . common law very naturally divided waters into navigable and non-navigable, and made the ebb and flow of the tide the test of navigability. In this country, while still retaining the common-law classification of navigable and non-navigable, we have, in view of our changed conditions, rejected its test of navigability, and adopted in its place that of navigability in fact." Lamprey v. Metcalf, 52 Minn. 181 (1893), at 199. This redefinition placed the Great Lakes, inland U.S. waterways and most lakes and streams under the servitude of the public trust doctrine.

16. Johnson & Johnson, "The Mississippi Public Trust Doctrine: Public and Private Rights in the Coastal Zone," 46 Mississippi Law Review (Winter, 1975), p. 84.
17. Gary Feess, "The Tidelands Trust: Economic Currents in a Traditional Legal Doctrine," 21 UCLA Law Review (1974), p. 870.
18. *Id.*, p. 891.
19. *Id.* pp. 863-864.

20. Sax, supra, note 10, p. 509.
21. Id., p. 513.
22. Olson, supra, note 8, p. 190.
23. Id., p. 183.
24. Feess, supra, note 17, p. 870. Feess speaks elsewhere of "the apparently intuitive balancing policy now being implemented." Id., p. 879.
25. Deveney, supra, note 12, p. 13.
26. Leonard Jaffee, "The Public Trust Doctrine is Alive and Kicking in New Jersey Tidal Waters: Neptune City v. Avon-By-The-Sea - A Case of Happy Atavism?" 14 Natural Resources Journal (1974), p. 312.
27. In re Application of Ashford, 50 Haw. 314, 440 P. 2d 76 (1968), McBryde Sugar Co., Ltd. v. Robinson, 54 Haw. 1974, 504 P. 2d 1330, aff'd on rehearing, 55 Haw. 260, 517 P. 2d 26 (1973), Neptune City v. Avon-By-The-Sea, 61 N.J. 296, 294 A. 2d 47 (1972), Gewirtz v. City of Long Beach, 69 Misc. 2d 763, 330 N.Y.S. 2d 495 (Sup. Ct., Nassau City, 1972), Marks v. Whitney, 6 Cal. 3rd 251, 98 Cal. Rpt. 374 (1971), City of Long Beach v. Mansell, 3 Cal. 2d 462, 91 Cal. Rpts. 23 (1920), City of Berkeley v. Superior Court of Alameda, 606 P. 2d 362 (1980), Wilbour v. Gallagher, 77 Wn. 2d 306 (1969), Morse v. Oregon Division of State Lands, 590 P. 2d 209 (1979).
28. Finn, supra, note 6, at H-2.
29. Gail Ishimoto, "Formulating a Mariculture Policy for Hawaii: The Submerged Lands Leasing Issues," unpublished Master's Thesis, University of Washington (1980), p. 33.
30. 6 N.J.L. 1 (Sup. Ct. 1821).
31. These concepts are concisely defined in an important recent case, Brusco Towboat Co. v. State of Oregon, supra, note 11. The court stated, at 1042-1043, "The state's ownership of submerged and submersible land is not, however, limited to the incidents of legal title. Rather, it is comprised of an interrelationship of two distinct aspects, each possessing its own characteristics. . . As sovereign, the state holds full proprietary rights in such land; it is invested with a fee simple title. This first element of the state's interest is called the jus privatum. [Citations omitted] Dominion, as opposed to title, over submerged and submersible

- lands, is invested in the state in its capacity as the public's representative. The state holds such dominion in trust for the public. This second aspect of the state's ownership is called the jus publicum. [Citations omitted] . . . Unlike the state's jus privatum interest, the jus publicum cannot be alienated." [Citations omitted]
32. The court asserted that public rights were paramount in "the coasts of the sea including both the water and the land under the water," explaining that such "property indeed vests in the sovereign, but it vests in him for the sake of order and protection, and not for his own use, but for the use of the citizen." 6 N.J.L. 1 (Sup. Ct. 1821), at 12.
33. 41 U.S. (16 Pet.) 376 (1842).
34. Pollard's Lessee v. Hagan, 44 U.S. 12 (1845), Weber v. Board of State Harbor Comm., 85 U.S. 798 (1873), Hardin v. Jordan, 140 U.S. 371 (1891), Shively v. Bowlby, 152 U.S. 331 (1893), Port of Seattle v. O & W Railroad Co., 255 U.S. 49, 65 L. Ed. 500 (1921).
35. The reasoning is well-put in Brusco Towboat, *supra*, note 11, at 1043: "It is axiomatic that within the common law property system all land must be owned by someone. Since submerged and submersible lands are incapable of ordinary private occupation and improvement and since their common uses are essentially public in nature, full legal ownership in fee simple devolved upon the sovereign." [Citations omitted] Also see discussion this report, Section V(A)(1). The Supreme Court in Martin and Pollard confirmed the title of the states as against both holders of Crown patents (English, French or Spanish) and the federal government.
36. Shively, *supra*, note 1, 352, held "the law of Oregon governs the case . . . The [federal] donation land claim, bounded by the Columbia River, upon which the plaintiff in error relies, includes no title or right in the land below high water mark; and the statutes of Oregon, under which the defendants in error hold, are a constitutional and legal exercise by the state of Oregon of its dominion over the lands under navigable waters." Port of Seattle v. O & W Railroad Co., *supra*, note 34, states: "The shore of navigable waters, and the tidelands thereunder, are owned by the state in which they lie as a part of its sovereignty, and all rights therein claimed under state grants are to be determined by the local law of the state in which the lands are situated, and the decisions of the courts of such state in the construction of such grants and the law applicable thereto are binding upon the Federal courts."

37. See discussion Section V(A), supra, "State Ownership of Off-shore Resources."
38. 104 Misc. 228, 171 N.Y.S. 716 (Sup. Ct. Kings County 1918), aff'd 173 N.Y.S. 917.
39. Id., at 232.
40. Eg., see Comment, "Can New York's Tidal Wetlands Be Saved? A Constitutional and Common Law Solution," 39 Albany Law Review 451, pp. 482-489 (1975). Cf. Note, "State Citizen Rights Respecting Greatwater Resource Allocation: From Rome to New Jersey," 25 Rutgers Law Review 521, pp. 703-710 (1971). This view is supported by the recent case, Neptune City v. Avon-By-The-Sea, supra, note 27, in which the court asserted as dicta, at 309: "A modern court must take the view that the public trust doctrine dictates that the beach and the ocean waters must be open to all on equal terms and without preference."
41. It is asserted, for example, in "Can New York's Tidal Wetlands Be Saved," supra, note 40, p. 479, that "The New York courts have held that the Parliament and the Crown together were not competent to grant the *jus publicum* to individuals for private purposes." Deveney, supra, note 12, p. 59, rebuts this view: "The implication that the legislature cannot extinguish the rights of the public in a specific area (fore-shore or land under water) for a legislatively determined public purpose (commerce or beneficial enjoyment) is not supported by even a single case decided by a court of appeals and ignores the policy of the New York Legislature for almost two hundred years." [Author's emphasis]
42. On federal law, see note 36, supra. State court decisions which place a resource within or without the scope of the public trust doctrine may be reviewed by federal courts. However, the actual disposition of resources recognized as public by federal courts, e.g. submerged lands is not reviewable. The irregularity of state law was noted in Shively v. Bowlby, supra, note 1, at 341: "The foregoing summary of the laws of the original states shows that there is no universal and uniform law upon the subject; but that each state has dealt with the lands under the tide waters within its borders according to its own views of justice and policy, reserving its own control over such lands, or granting rights therein to individuals or corporations, whether owners of the adjoining upland or not, as it considered for the best interests of the public. Great caution, therefore, is necessary in applying precedents in one state to cases arising in another."

43. Finn, supra, note 6, at H-16. [Emphasis added]
44. Sanford Berland, "Toward the True Meaning of the Public Trust" 1 Sea Grant Law Journal (1976), p. 83, characterizes this view as holding that "any legislatively authorized use or disposition of such lands is justified if undertaken in the public interest and is generally presumed to be so justified."
45. Id., p. 84. [Author's emphasis]
46. Joseph Sax, "Liberating the Public Trust Doctrine from Its Historical Shackles," Keynote Address, The Public Trust Doctrine in Natural Resources Law and Management Conference, University of California at Davis (September 25, 1980), p. 2.
47. 146 U.S. 387 (1892).
48. Illinois Central is described in City of Berkeley v. Superior Court, 606 P. 2d 362, 365 (1980), for example, as "the seminal case on the scope of the public trust doctrine and [so] remains even today, almost nine decades after it was decided."
49. 146 U.S. 387, at 453.
50. Id.
51. Johnson and Johnson, supra, note 16, p. 90.
52. The Court stated that it would have approved this particular grant as "a valid exercise of legislative power" if it had been made only for "parcels of land under navigable waters, that may afford foundation for wharves, piers, docks and other structures in aid of commerce, and grants of parcels, which, being occupied, do not substantially impair the public interest in the lands and waters remaining." 146 U.S. 357, at 452.
53. Eg., Marks v. Whitney, City of Berkeley, supra, note 27; Brusco Towboat, supra, note 11, Boone v. Kingsbury, supra, note 15.
54. City of Berkeley, supra, note 27, at 375, J. Clark dissenting. Clark cites City of Long Beach v. Mansell, supra, note 27, and three other cases to support this statement.
55. Id. A statutory version of this test is contained in New York's Public Lands Law (45 McKinney's Consolidated Laws of New York, Ann. Supp. 1974-75), Section 34(2), which permits the state to release its title and interest in the waters and tributaries of Jamaica Bay only for purposes consistent with the public trust in that resource. Section 34(2) lists

such purposes, and "none of these purposes include or intimate that landfilling or the construction of homes is a proper use of wetlands for which the state may release its trusteeship therein." Opinion of New York Attorney General, supra, note 42, p. 57.

56. 273 P. 797 (1928).
57. *Id.*, at 817: "We are satisfied that the state act under consideration is a valid exercise of a right which inheres in the state by virtue of its sovereign power. It does not impinge upon the state or federal constitutions and is not in conflict with any act of Congress or the state of California." This leasing program was later enjoined by the U.S. Supreme Court, U.S. v. California, 332 U.S. 19 (1947), but on national interest, not public trust grounds. As earlier noted, Congress in turn placed primary trust responsibilities for off-shore resources (to the limit of state boundaries) with the states, through passage of the Submerged Lands Act in 1953. This action fully restored the state leasing program.
58. Traditional Doctrine, supra, note 4, p. 778.
59. 273 P. 797, at 812.
60. Feess, supra, note 17, p. 853.
61. 273 P. 797, at 812.
62. *Id.*
63. The court stated: "Gasoline is so closely allied with state and national welfare as to make its production a matter of state and national concern. If it can be said of any industry that its output is 'in aid and furtherance of commerce and navigation,' and its production 'a public benefit,' the production of gasoline . . . would entitle it to a high classification in the scale of useful, natural products . . . The state Legislature, by adopting the act before us, recognized the use of gasoline and oil to be practically indispensable to the needs of rapid, expanding industry and commerce." *Id.*
64. *Id.*, at 816.
65. *Id.*, at 812. "In this respect the instant case is widely different from Illinois Central R. Co. v. People of the State of Illinois 146 U.S. 452, 13 S. Ct. 118 (36 L. Ed. 1018), the case frequently cited by respondent, surveyor general, and the amici curiae in sympathy with his position." *Id.*

66. *Id.*, at 812-813.
67. John Briscoe, Deputy Attorney General, State of California, personal communication, July 14, 1980. Another observer has stated, "the legal boundaries established in response to the growth of offshore oil recovery will determine the legal regime in which the infant industry of mariculture will develop its technology." Milford Shirley, "Mariculture, The Law of the Continental Shelf and Offshore Oil Recovery: A Technology Affected by a Body of Law Effected by A Technology," XI Natural Resources Lawyer (1976), p. 727. The California Legislature in 1971 enacted a "Mariculture Law" authorizing the State Department of Fish and Game to lease ocean areas for the "exclusive privilege of cultivating marine life." CAL. STAT. Division 6, Ch. 5, Sections 6480-6504.
68. Boone v. Kingsbury, *supra*, note 56, at 817: "Florida, Texas, Louisiana, Oklahoma, and other states have adopted statutes strikingly similar to our statute, in recognition of the public benefit that will accrue to the commonwealth by the developing of the phosphates, gas, oil, and other mineral wealth which lies beneath submerged lands, and in no instance have such statutes conferring the same powers upon private parties and corporations as our act confers been condemned upon the constitutional grounds which are here urged against our state statute."
69. FLA. STAT. ANN. Section 253.68 (Supp. 1970), states: "To the extent that it is not contrary to the public interest, and subject to limitations contained in Sections 253.67-253.75, the board of trustees may lease submerged lands to which it has title for the conduct of aquaculture activities"
70. *Id.*
71. Delogu, *supra*, note 7, p. 611, n. 12.
72. Brusco Towboat Co., *supra*, note 11.
73. 6 Cal. 3d 251, 491 P. 2d 374 (1971).
74. The court stated it would "take judicial notice of public trust burdens in quieting title to tidelands. This matter is of great public importance, particularly in view of population pressures, demands for recreational property, and the increasing development of seashore and water front property. A present declaration that the title of Marks in these tidelands is burdened with a public easement may avoid needless future litigation." *Id.*, 491 P. 2d at 378.

75. The Sierra Club, appearing as an amicus curiae in this case, had asked the court "to declare the scope and extent of the public servitude in areas of navigable waters over tidelands." (491 P. 2d at 378, n. 2) The court in response ruled that all traditional uses, and recreational uses, of navigable waters were protected and "the public has the same rights in and to tidelands." (Id., at 380) The court noted the changing nature of public needs and stated: "There is a growing public recognition that one of the most important public uses of the tidelands -- a use encompassed within the tidelands trust -- is the preservation of those lands in their natural state, so that they may serve as ecological units for scientific study, as open space, and as environments which provide food and habitat for birds and marine life, and which favorably affect the scenery and climate of the area." Id., at 380.

Feess, supra, note 17, p. 866, states that in Marks the Court "employed the broadest language ever used in defining the public rights in the tidal zone." Gregory Taylor, "Patented Tidelands: A Naked Fee? Marks v. Whitney and the Public Trust Easement," 47 Cal. St. Bar Journal 420 (1972), concludes, p. 487: "The Marks decision reaffirms the ability of the state to protect its sovereign public trust interests in tidelands for purposes relevant to today's needs."

76. 491 P. 2d at 380.

77. 67 Cal. 2d 408, 432 P. 2d 3 (1967).

78. Id., at 416-417.

79. 491 P. 2d at 380-381. [Citations omitted]

80. Briscoe, personal communication, supra, note 67.

81. 606 P. 2d 372 (1980).

82. Id., at 373.

83. Id., at 366. The court stated: "Even before Illinois Central was decided, it was recognized in California that the state had the authority as administrator of the trust on behalf of the public to dispose absolutely of title to tidelands to private persons if the purpose of the conveyance was to promote navigation or commerce . . . From the early days of statehood, it was held that conveyances made pursuant to such a program passed title free of the public trust."

84. *Id.*, at 371: "Illinois Central makes it clear that one Legislature may not sell the discretion of its successors to exercise the state's power as the trustee of tidelands." The Court, in Boone, had stated on this point, at 273 P. 813: "To justify an interference by courts with the right of the Legislature to alienate tide or submerged lands, it must appear that such grants do or will impair the power of succeeding Legislatures to regulate, protect, improve, or develop the public rights of navigation and fishing . . . It cannot be seen that the legislation in the instant case will embarrass immediate or remote legislation."
85. 61 N.J. 296, 294 A. 2d 47 (1972).
86. Jaffee, supra, note 26, p. 310.
87. *Id.*, p. 213, note 24.
88. *Id.*, p. 312.
89. Michael Town and William Yuen, "Public Access to Beaches in Hawaii: A Social Necessity," X Hawaii Bar Journal (1973), p. 28.
90. Eg., John Stuart, "Judicial Decisionmaking and the Administration of Coastal Resources," 1 Sea Grant Law Journal (1976), states, p. 193: "Before the California Constitution was amended to prohibit tidelands sales, the Legislature thought that the raising of revenue by these sales was a paramount public benefit." See also City of Berkeley, supra, note 27, at 370-371.
91. Deveney, supra, note 12, p. 72.
92. *Id.*, p. 13.
93. Feess, supra, note 17, p. 869.
94. Stephen Rees, "Conveyances of Sovereign Lands Under the Public Trust Doctrine: When Are They In The Public Interest?" XXIV University of Florida Law Review (1972), states, p. 292: "In White v. Hughes the [Florida Supreme] Court determined conclusively that bathing and recreation were the primary uses of the state's beaches." Rees concludes, however: "It would appear that the trust doctrine is more readily applied to protect recreational activities directly associated with Florida's beaches than those upon and under navigable waters." *Id.*

It should be noted that Florida was also the first state to enact legislation permitting exclusive uses of offshore waters for mariculture. See note 69, supra.

95. The New Jersey Supreme Court has ruled that a State may even sue for damage to public trust resources, State v. Jersey Central Power and Light Co., 125 N.J. Super. 97, 308 A. 2d 671 (L. Div. 1973). According to one commentator, the court found "that the state has the right and the fiduciary duty to collect damages for destruction of wildlife, which are part of the Corpus of the public trust." Wayne Christian, "Environmental Law - Public Trust - Injury to Public Trust is Basis for Award of Damages - State v. Jersey Central Power & Light Co.," 5 Seton Hall Law Review (1974), p. 396. The Puerto Rico Supreme Court ruled similarly in Comm. of Puerto Rico v. SS Zoe Colocotroni, 456 F. Supp. 1327 (1978), stating at 1337: "The Commonwealth therefore has standing to sue to recover for oil pollution harm to Bahia Sucia and related resources because it has a proprietary interest in the same." The Court specifically cited the public trust doctrine as the basis for this ruling. Id., at 1336. The U.S. Supreme Court ruled in Askew v. American Waterways Operators, Inc., 411 U.S. 325 (1972), that the Florida Oil Spill Prevention and Pollution Control Act, Fla. Laws 1970, e. 70-244, Fla. Stat. Ann. Section 376.011 et. seq. (Supp. 1973), was properly enacted by the State of Florida pursuant to its police power over the health, safety and welfare of living marine resources and of state citizens. The court stated, at 328: "We find no constitutional or statutory impediment to permitting Florida, in the present setting of this case, to establish any 'requirement or liability' concerning the impact of oil spillages on Florida's interests or concerns."
96. Nelson, supra, note 3, states pp. 507-508: "There appears to be no case in which a court has concluded that a state grant of lands under navigable waters was not in the public interest, or interfered with the public interest in the lands and waters remaining. . . . The few decisions which hold a sale of submerged lands to be invalid are based on considerations not relevant to the public interest. . . . Where the legislature asserts, by statute or otherwise, that the public interest in the land and water remaining will not be harmed, and/or the public interest will in some way be promoted, it is conclusive."
97. Stone, supra, note 5, p. 196.
98. State of Arizona v. State of California, 298 U.S. 558, 56 S. Ct. 848 (1936), reh. denied 299 U.S. 618, 57 S. Ct. 4 (1936).

99. Thomas Kane, Aquaculture and the Law, University of Miami Sea Grant Program (1970), p. 54. Kane argues that the public interest in "new and greater food resources from the sea . . . could be held to be a better right or use than the public right of navigation." *Id.*, p. 59.
100. *Id.*, p. 58: "if dams, dykes or other artificial obstructions in navigable waters are authorized by law and approval is obtained from the Chief of Engineers and Secretary of the Army, the public right of navigation can be limited or taken without compensation."
101. Oregon Admission Acts, Section 2, 11 Stat. 383 (1859): "all the navigable waters of said State, shall be common highways and forever free, as well as to the inhabitants of said State as to all other citizens of the United States, without any tax, duty, import or toll therefor."
102. Hume v. Rogue River Packing Co., 51 Or. 237, 83 Pac. 391 (1908). Article I, Section 20 of the Oregon State Constitution reads: "No law shall be passed granting to any citizen privileges or immunities which upon the same terms shall not equally belong to all citizens." The Oregon Attorney General has stated that on this matter, Hume and subsequent cases are conclusive. Opinion of Oregon Attorney General James A. Redden, No. 7791 (August 13, 1979) p. 8. The question remains, however, whether a mariculture operation involves an exclusive right "to fish." The same Attorney General Opinion affirms the authority of the state to lease submerged lands to a private company for the purpose of commercial harvesting of clams, and further, to grant that company the exclusive right to dredge the leased areas for those clams which the company itself planted. *Id.*, p. 1.
103. 35 Am. Jur. 2d, Fish and Game, Section 7, p. 652.
104. 589 Pac. 2d 712 (1978).
105. OAR 141-82-015(1): "Any person engaged in a permanent or long-term use of state-owned submerged or submersible lands not exempted from leasing by statute or these regulations must obtain a lease from the Division (State Land Board)."
106. 589 Pac. 2d at 718.
107. *Id.*

108. Id., p. 724. Maryland is another state which has utilized public trust resources to further commerce, broadly defined. The Maryland Attorney General has stated: "although the public trust doctrine has been raised in Maryland [citations omitted], it has not been sanctioned by the Court of Appeals so as to prevent the patenting and granting of submerged areas nor the State's issuance of a license to reclaim such areas from the sea." Opinion of Maryland Attorney General Francis B. Burch, "Natural Resources-Wetlands-Effect on Lands Submerged Further by Erosion or Avulsion-Effect of Artificial Improvement Upon Further Submerged or Fast Lands-Effect of Public Right of Navigation and Fishing Upon Subaqueous Land." (August 24, 1972), p. 452.
109. Hawaii State Constitutional Convention Committee on Environmental, Agriculture, Conservation and Land, Standing Committee Report 77 (September 7, 1978), pp. 1-4.
110. Sax, "Liberating the Public Trust Doctrine from Its Historic Shackles," supra, note 46, p. 14.
111. Id., p. 2.
112. Id., p. 3.
113. Id., p. 4.
114. Id.
115. Id.
116. See Nelson, supra, note 3. Illinois Central actually did not directly invalidate the grant made by the State Legislature; it only confirmed the right of the Legislature to repeal that grant.
117. Sax, supra, note 10, p. 502.
118. Joseph Sax, personal interview, Davis, California (September 25, 1980).
119. 35 Haw. 608 (1940).
120. Id., at 641.
121. 11 Haw. 717 (1899).
122. Id., at 725.
123. Finn, supra, note 6, at H-11. The recent case of State of Hawaii v. Texaco, Inc., 53 Haw. 567, 498 P. 2d 631 (1972)

re-affirmed the authority of the state to determine uses of harbor facilities. This case involved the proper interpretation of Paragraph 9, Article IV of the lease given to Texaco, a clause related to the public trust requirement that the State not abdicate control over trust resources. This clause reserved to the State the right to terminate the lease if it determined that the demised premises were required by the State to be put "to other purposes." The court ruled that the State's action terminating the lease was a proper "exercise of an option reserved to the State, and Texaco is in no position to compel the State to act otherwise." *Id.*, 498 P. 2d at 634.

124. 16 Haw. 363 (1905). Kerr is the latest Hawaii case on public trust protection of the shoreline, according to Finn, supra, note 6, at H-15.
125. 16 Haw. 363, 376.
126. Finn, supra, note 6, at H-68, n. 65.
127. 54 Haw. 174, 504 P. 2d 1330 aff'd on Deh., 55 Haw. 260, 517 P. 2d 26 (1973), app. dsmd., cert. den., 417 U.S. 976 (1974).
128. Finn, supra, note 6, at H-20. The U.S. District Court, in Robinson v. Ariyoshi, 441 F. Supp. 559 (1977), reversed McBryde as a violation of due process, resulting in a "taking" of private water rights. This decision has been appealed by the State to the Ninth Circuit Court. The McBryde ruling nonetheless shows the strong public trust views of the state court.
129. County of Hawaii v. Sotomura, 50 Haw. 176, 434 P. 2d 750 (1973). The court stated, at 182: "Public policy, as interpreted by this court, favors extending to public use and ownership as much of Hawaii's shoreline as is reasonably possible."
130. Finn, supra, note 6, at H-2.
131. *Id.*, at H-37.
132. *Id.*, at H-2, citing Sotomura.
133. The State Department of Land and Natural Resources presently claims authority to lease ocean areas, including the vertical water column in any area (Roger Evans, DLNR Conservation District Planner, personal interview, June, 1980). However, only authority to lease submerged lands seems clear. The Department's authority to lease areas of the ocean surface and/or the vertical water column may be challenged on public trust

grounds absent an explicit legislative act delegating administration of an ocean leasing program to that agency. See, eg., Sacco v. Department of Public Works, 227 N.E. 2d 478 (Mass. S. Jud. Ct. 1967), holding that public resources cannot be administratively diverted from one use to another without an explicit legislative directive authorizing same.

134. Florida Aquaculture Lease Guidelines, Section 5.
135. Eg., Gould v. Greylock Reservation Commission, 350 Mass. 410, 215 N.E. 2d 114 (1966); Scenic Hudson Preservation Conference v. U.S., Ct. of App. 2d Cir. No. 106 (1965); Morse v. Oregon Division of State Lands, Or., 590 P. 2d 709 (1978).
136. Delogu, supra, note 7, p. 610.
137. Senate Bill No. 52, approved by Governor June 29, 1979, "an act to amend Section 8345 of the Fish and Game Code, to amend Section 30411 of, and to add Chapter 4 (commencing with Section 825) to Division 1 of, the Public Resources Code, relating to aquaculture, making an appropriation therefor, and declaring the urgency thereof, to take effect immediately."
138. CADA, Section 3, 30411(e).
139. Id. Section 2, 826.
140. Id. Section 3, 30411(c).
141. Id. Section 2, 834 and 832(c) and (d).
142. Id. Section 5.
143. Fred Conte and Andrew Manus, "Aquaculture and Coastal Zone Planning" (University of California Sea Grant Advisory Program, 1980), p. 4.
144. Id., p. 3. The authors state that "Conservative estimates of wholesale figures place aquaculture producer income at 6.5 million dollars in 1977. Once in the retail market as food items, or as fish and bait for the recreational industry, this figure increases three to five times." Id.
145. Aquaculture Development for Hawaii, State Department of Planning and Economic Development (1978). The plan emphasizes land-based aquaculture technology. However, as an authority on mariculture has stated, aquaculture "has really only begun its development . . . perhaps, in a few generations, mariculture will be as important as pond or raceway culture in fresh water." Dr. John Bardach, Keynote Address,

Tenth Annual Meeting, World Mariculture Society, Honolulu, Hawaii (Louisiana State University, 1979), pp. 11 and 18.

146. Taylor Pryor, "Hawaii and Aquaculture: The Blue Revolution," State of Hawaii Department of Planning and Economic Development (1971), states: "Sea water itself is fertilizer, with all of the needed elements available. Mix sea water and sunlight and you have enormous energy. Add the fantastic reproduction capability of most marine organisms and then take this rate under your control and you have the elements of a new and massively important event. Call it the 'Blue Revolution,' the capacity to not only feed the world but to do so with a much increased level of economic well-being." The situation can also be stated in the negative: "Many observers see aquaculture as the only avenue toward mitigating the coming shortage in seafood. Several countries have preceded us [the United States] in this conclusion." Gerald Bowden, Aquaculture Law and Policy in California, in press, p. 2.
147. Sax, personal interview (September 25, 1980).
148. Sax, "Liberating the Public Trust Doctrine from Its Historic Shackles," supra, note 46, p. 5.
149. Id., p. 12.
150. Gerald Bowden, "Marine Aquaculture in California: An Overview," unpublished paper, 1977.
151. See discussion, Section III(A), supra.

D. COMMON LAW AND STATE LAW RESTRICTIONS UPON STATE AUTHORITY

2. Konohiki Fisheries/Native Hawaiian Rights

Q: What are the common law and state law restrictions upon the state's authority over its offshore waters?

A: In Hawaii, exclusive private fishing rights are recognized by law. Such rights may restrict the state's ability to allocate its ocean resources.

Existing side-by-side with the public trust doctrine in Hawaii state law is a system of exclusive fishing rights derived from ancient Hawaiian custom and usage.¹ This system, known today as "konohiki fisheries,"² presents a very different problem for state authority than does the public trust doctrine. The restriction operating here is upon the state's ability to lease marine waters which are recognized by statute and case law as private, at least for purposes of fishing.³

Private fishing rights received official written recognition in 1839 as a section of "An Act to Regulate the Taxes," and entered the Laws of 1840 as Chapter III-8, "Of free and prohibited fishing grounds." Part 1 stated:

"His Majesty the King hereby takes the fishing grounds from those who now possess them from Hawaii to Kauai, and gives one portion of them to the common people, another portion to the landlords, and a portion he reserves to himself . . . the fishing grounds from the coral reef to the sea beach are for the landlords and for the tenants of their several lands, but not for others."

The landlords here referred to were the konohikis, overseers originally appointed by the alii nui or high chief of each island to administer the various ahupua'a which constituted the basic land division at that time.⁴ Each ahupua'a was a pie-shaped strip of land running from the mountain tops to the sea. The traditional Hawaiian land system "did not distinguish between land and water running over the land, or between the shoreline and the sea beyond."⁵ Fishing rights had become associated with these ahupua'as

as part of the self-sustaining concept which animated the decentralized political system.⁶ The konohiki had authority to set apart one species of fish for his exclusive use, or to taboo all fishing during certain periods, while receiving one-third of all fish caught within the konohiki fishing grounds during the rest of the year.

Some commentators view this custom of exclusive fisheries as a well-taken conservation measure.⁷ Others have looked at the practice less positively, as an oppressive device of the ruling class to exact income from the common people.⁸ The fact that the first written regulations on the matter were contained in "An Act to Regulate the Taxes" suggests that whatever conservationist results were intended, the immediate considerations were more directly economic and political. In any case, the rights formally granted to landlords by King Kamehameha III in 1840 were approved by the Hawaii Legislature essentially intact in 1859, and became Sections 387 to 395 of the Civil Code. State laws pertaining to konohiki fishing rights have since undergone no substantial alteration.⁹

While the laws have little changed, the land system which gave exclusive fisheries their context has been drastically altered. The Great Mahele of 1848 "led to changes in the institutional structure for land from the ahupua'a tenure system under which use rights but not title to land existed, to the allodial tenure system under which rights of ownership gained a solid foothold."¹⁰ The exclusive fisheries appurtenant to lands granted to private landlords during the Great Mahele period and thereafter also became private property.

Ownership of both lands and fisheries continued to be concentrated in the hands of a small elite class. The members of this elite were for the most part not Hawaiians, however, for "in less than fifteen years after the Mahele, three-fourths of the land distributed to the alii had passed into the hands of haoles."¹¹ The role of the landlord "changed from a position whose social

responsibility it was to maintain a balance in natural resource use for the welfare of the ahupua'a community, to a position of private privileges in the harvests of the fisheries without necessarily the responsibility for conservation."¹²

A konohiki could taboo one fish, or all fishing during specified periods. Otherwise the konohiki system did not allow the owners of fisheries to regulate the taking of fish by tenants within fishery bounds. Owners could and did lease out fishing privileges, however.¹³ Unfortunately, the economic value of these fisheries has seen a long and steady decline.¹⁴ The konohiki fisheries had been predicated on a subsistence culture,¹⁵ and were not economically viable in a modern market economy. Near-shore waters in Hawaii simply do not contain adequate fish stocks to support large-scale commercial fishing activities.¹⁶ The high costs of enforcing konohiki rights, within a general system of public fishing, combined with the realization of only marginal revenues, has made this feature of the ancient Hawaiian land system of small practical importance today. Private fishery owners are "not relying on their fisheries as a major source of food or income . . . little if any private enforcement efforts are being made on behalf of these konohiki fisheries."¹⁷

Contributing to the decline of the konohiki fisheries was the public trust doctrine of U.S. law. When the Hawaiian islands were annexed by the United States in 1900, the Hawaii Organic Act directly attacked the legal basis for the fisheries. Finding the concept of such exclusive fisheries repugnant to public trust principles, Congress in Section 95 of the Act repealed all laws conferring exclusive fishing rights, "subject, however, to vested rights." Section 96 required any claimant of such rights to register his claim through a petition filed in the circuit court, and to do so within two years of the "taking effect" of the Act. The Territory was then to condemn and purchase each adjudicated fishery.

The intent and the right of Congress to eliminate private fishing rights has not been questioned.¹⁸ The validity of the

Section 96 "taking" provision, however, was challenged by Bishop Estate in 1936 on due process grounds. The Hawaii Supreme Court in Bishop v. Mahiko (1940) ruled that the provision was constitutional.¹⁹ The court also made it clear that all unregistered fisheries were completely open to the public.²⁰

The saving clause in Section 95, "subject, however, to vested rights," generated more immediate controversy. This clause was interpreted very narrowly by the Hawaii Supreme Court in Carter v. Hawaii and Damon v. Hawaii (1902).²¹ In each case the court ruled, on basically public trust grounds, that statutes alone had created konohiki fishing rights and those statutes now stood repealed. The state was not responsible for compensating those who lost rights when laws change, for laws create no "vested rights," particularly in public resources such as the ocean.²²

Plaintiffs appealed separately to the United States Supreme Court and in each case the Court reversed.²³ The Court ruled the Hawaii statutes had not "created only a revocable license, and if they imported a grant or a confirmation of an existing title, of course the repeal of the laws would not repeal the grant. . . . If the Hawaii statutes did not import a grant, it is hard to see their meaning."²⁴ "Vested" konohiki rights therefore continue to be recognized and regulated in state statutes.

The U.S. Supreme Court rulings prevented a total elimination of konohiki fisheries. The Organic Act nonetheless served to open approximately 250 konohiki fisheries to the public through failure of the owners to register these fisheries within two years, as required by the Act. Only 101 fisheries were registered.²⁵ Although condemnation proceedings since 1900 have been anything but vigorous, by one count at present only 42 konohiki fisheries remain, the majority of them located around Oahu.²⁶

In addition to konohiki rights, Hawaii statutory law recognizes tenants' rights.²⁷ These rights held by ahupua'a residents, or hoa'aina, have also received judicial attention, beginning with

Haalelea v. Montgomery (1858).²⁸ Protecting the rights of the hoa'aina, the court held that the konohiki owner did not possess a totally exclusive right to his fishery, for all ahupua'a tenants were also privileged to fish. Haalelea also strongly questioned whether fishing rights, though a form of private property, could be apportioned as were property rights in the lands adjacent. The court indicated that a fishery could not be subdivided, for practical reasons dictated only one owner per fishery, or "the rights of the tenants [could become] worthless."²⁹

The court viewed this case as involving a "question of considerable magnitude, the decision of which may effect the rights and interests of many individuals throughout the Kingdom."³⁰ Much konohiki fisheries litigation since has concerned the rights and definition of "tenant," so Haalelea has received continuing attention. The rule established in Haalelea was that any occupier of ahupua'a land, on whatever terms, was a tenant under the law and had not only fishing privileges but rights, which could not be abrogated.³¹

This rule was followed until Damon v. Tsutsui (1930).³² There the court reiterated the Haalelea definition of tenant, but went on to declare that "those persons who became tenants after April 30, 1900, as did Tsutsui in 1929, did not have any 'vested' rights within the meaning of the Organic Act and therefore the repealing clause was operative as against them."³³ This new rule in effect eliminated all but a very few tenant claims in konohiki fisheries.³⁴ A conflict exists, however, between state court and federal court rulings on this point. Konohiki fisheries in Pearl Harbor were condemned and purchased by the United States during the 1930's. The condemnations were carried out by the U.S. Attorney General in federal court proceedings, and there the U.S. court found Damon v. Tsutsui to be "clearly erroneous."³⁵ The federal court held that the statutory statement contained presently in H.R.S. Section 188-5, "The konohiki shall be considered in law to hold the private fisheries for the equal use of themselves and of the tenants on their

respective lands," [Emphasis added] created "a trusteeship in the holder of the legal title" on behalf of the tenants.³⁶ The court concluded that Congress had not intended the many tenants (hoa'aina) to individually validate their rights through the courts under the provisions of the Organic Act, and therefore any present tenant of ahupua'a land adjacent to a registered konohiki fishery held the same vested right which any tenant of 1900 held.³⁷

The federal courts possess no jurisdiction, however, over other konohiki fisheries located within state waters. Whether the State Supreme Court would today or sometime in the future recognize hoa'aina rights as upheld by the federal court is unknown. The issue may arise for adjudication in one of two circumstances: (1) a fishery appurtenant to an ahupua'a having tenants is condemned, and compensation for tenants is sought, or (2) the State licenses a private fixed-location ocean activity within a konohiki fishing area which restricts an ahupua'a tenant's access to the konohiki fishing grounds. The State Supreme Court may re-evaluate Damon v. Tsutsui in light of the contemporary regard for native Hawaiian rights.

The Hawaii State Constitution, as amended in 1978 (Article XII, Section 7, "Traditional and Customary Rights"), now states:

"The State reaffirms and shall protect all rights, customarily and traditionally exercised for subsistence, cultural and religious purposes and possessed by ahupua'a tenants who are descendants of native Hawaiians who inhabited the Hawaiian Islands prior to 1778, subject to the right of the State to regulate such rights."

The Constitutional Convention Committee on Hawaiian Affairs in its report on this proposed amendment stated that:

"Since practically all ancient Hawaiians practiced and possessed such vested rights which automatically passed to their descendants and which have never been condemned or compensated for, they are, therefore, still held by Hawaiians today, with the exception of fishing rights that were condemned and compensated for."³⁸

The Committee argues that hoa'aina rights pass by descent, not by statute or by trust, for they are to be considered "personal" in nature.³⁹ If a court were to accept this view, residency on a ahupua'a as of 1900 would be immaterial; however, only those present tenants who can claim Hawaiian descent would possess hoa'aina rights.

Thus konohiki and especially hoa'aina rights may present a "real question concerning the extent of public and private rights in fisheries."⁴⁰ It is not clear whether these private rights would "limit this State in any way from leasing vertical columns of water in submerged or coastal zone areas to private profit-making organizations."⁴¹

It appears that at present, due to the poor status of records and the "low profile" of konohiki owners, the practice of the Department of Land and Natural Resources is to treat konohiki fishing areas "just like any other until the owner asserts rights."⁴² Recognition of hoa'aina rights, contra Damon v. Tsutsui, however, would present a serious potential restriction upon state ocean leasing within konohiki areas, in that any present ahupua'a tenant could assert that his vested rights were being violated by his exclusion from an area within the fishery. Given the different interests of the hoa'aina and the konohiki owners, hoa'aina are more likely to have reason to bring suit against the State and the State's lessee than are the fishery owners, who for some time now have shown little interest in exercising their konohiki rights.

Under Damon v. Tsutsui, very few tenants remain who could bring such action. Under the federal court rule, however, any present tenant of ahupua'a land adjacent to a konohiki fishery could bring an action. Under the rule argued by the Con-Con Committee, any tenant of Hawaiian descent could bring an action.

The Con-Con Committee adopted a very broad position concerning hoa'aina rights, seemingly asserting that all present native

Hawaiians retain vested rights in all traditional konohiki fisheries which have not been condemned.⁴³ This position is directly opposed by not only Damon v. Tsutsui but also Bishop v. Mahiko, which established, as stated previously, that those konohiki fisheries not registered according to the requirements of the Organic Act by law no longer exist, that compensation was waived, and neither konohikis nor tenants continue to possess vested rights to those fisheries. It can be argued that the inaction of the konohiki owner in failing to register the fishery should not invalidate the vested rights of the hoa'aina, who never were expected to individually register their claims. The mistake of the konohiki, who had responsibility to act as "trustee" for the hoa'aina in this matter according to the federal court, should not be visited on the hoa'aina beneficiaries of the trust. Whatever the moral or cultural merits of this view, it is one which has at present no standing in state case law.

Should the State Supreme Court address this issue and overrule Damon v. Tsutsui, on either the grounds asserted by the federal courts in the "Pearl Harbor" cases or on the basis of the language now found in the Hawaii State Constitution concerning native Hawaiian traditional and customary rights (Article XII, Section 7), any ocean lease restricting public access to ocean areas within a registered konohiki fishery would be open to legal challenge by (1) a present ahupua'a tenant (if Damon v. Tsutsui has been overruled on "trustee" grounds) or (2) any native Hawaiian (if overruled on constitutional grounds). Should the court adopt the Con-Con Committee view that all native Hawaiians today hold vested rights to fish in all former konohiki fisheries regardless of registration or non-registration according to the Hawaii Organic Act, then any ocean lease restricting access to any ocean area within "the fishing grounds from the coral reef to the sea beach" (or where there is no reef, seaward one geographical mile), which have not previously been formally condemned, would be open to challenge by any native Hawaiian.

Article XII, Section 7 of the Hawaii Constitution also contains a limiting privilege, which states that native Hawaiian rights are "subject to the right of the State to regulate such rights." Native Hawaiians must obey all State fish and game regulations. It may be argued that the State's "right to regulate" here includes the authority to license a mariculture operation located between the reef and the shore if that operation in fact does not interfere with the exercise by native Hawaiians of their rights of subsistence fishing, and cultural and religious expression. The mere presence of a mariculture operation in itself would not violate these rights, any more than it would violate the general public's rights under the public trust doctrine. Interference must be shown. Still, the policy of the State at the most fundamental level (i.e., the State Constitution) is to affirm and protect native Hawaiian rights and tradition.

It may therefore be advisable to provide in all ocean leases for the contingency that Damon v. Tsutsui might be overruled. A lease provision might declare that the State affirms all traditional and customary native Hawaiian rights and therefore the lessee may not interfere with an ahupua'a tenant's right of subsistence fishing. As presently recognized by state case law, such a right could possibly be asserted only by pre-1900-to-the-present tenants of ahupua'as adjacent to registered konohiki fisheries. The class of persons who could possibly assert a cause of action in present state case law is thus extremely small.

It does not appear likely that the Hawaii Supreme Court would hold that native Hawaiian rights of subsistence fishing extend beyond the reef or beyond one mile offshore. The State Constitution re-affirms only rights "possessed by ahupua'a tenants." The traditional right possessed specifically by ahupua'a tenants was the right to fish in the area within the reef (or within one geographical mile of the shore). The area beyond the reef was a common fishing ground open to all. There is no basis in Hawaiian law or

custom for an assertion of special fishing privileges for ahupua'a tenants beyond the reef or beyond one geographical mile, as there is within the near-shore area.

Considering only state law (statutory and common) as it applies at present, the existence of konohiki fisheries does place certain restrictions upon state authority to license ocean activities within those fisheries. Certainly, the state may not lease any portion of the ocean lying within a konohiki fishery for the placement and exclusive use of a fish attraction device, or for seaweed cultivation. Either of these actions would directly contradict the exclusive konohiki fishing right. Since konohiki rights include only exclusive fishing rights, however, non-fishing uses are not in conflict with konohiki rights, if the non-fishing use does not substantially interfere with the ability of the konohiki, his agents, or ahupua'a tenants (at present, only those who can prove residence or kuleana ownership back to 1900) to conduct fishing activities.

Whether a mariculturist, specifically, could rely on a state lease to operate within a konohiki fishery would in this regard then depend upon legislative and/or judicial declaration that mariculture activity is or is not "fishing." One commentator has stated, "Mariculture, for purposes of regulation, undoubtedly will be considered a fishery."⁴⁴ In some states, however, aquaculture activities are considered to be "industrial uses."⁴⁵ Article XI, Section 6 of the Hawaii State Constitution does not state that mariculture is "fishing," only that all fisheries not included in a state-licensed mariculture operation, fish pond or artificial enclosure are free to the public. In present law a State-licensed mariculture operation would not be subject to the fish and game regulations applicable to "fisheries."

If the Legislature desires to prohibit state leases for mariculture activities within private konohiki fisheries, it should therefore in any ocean leasing legislation explicitly define a mariculture operation as a fishery. If the Legislature desires

to not so restrict the state's options, mariculture should be distinguished in any legislation from "fishing," and specific provision made to allow state mariculture leases within private fishery bounds, subject to the vested rights of the owner (and any tenants) to "not be molested" in their overall possession of the fishery.⁴⁶ The mariculturist in siting his activity must still consider the possibility of a change in state law concerning native Hawaiian rights, as discussed earlier, and must decide whether he wishes to chance such interference as a change in the law might bring.

The state is not limited to the alternatives of either prohibiting or allowing ocean leasing within konohiki areas. The State could: (1) complete the condemnation program intended in the Hawaii Organic Act of 1900, or (2) attempt to open for public use those remaining konohiki fisheries which have not been policed and used for many years by their owners, on the basis of implied dedication or adverse possession by the public. With regard to the first alternative, condemnation of the remaining konohikis would be opportune at this time.⁴⁷ The value of the fisheries is presently low; however, if potential for commercially successful mariculture enterprises grows in the coming years, konohiki owners may themselves sub-lease their fishing rights to mariculturists. Such a development would definitely raise the value and the purchase price of all konohiki fisheries.⁴⁸ Moreover, the income generated by such arrangements would flow to konohiki owners rather than to the State through lease fees and royalties.

Concerning the second alternative, a case brought against owners (and, necessarily any tenants) of unpoliced private fisheries, arguing either implied dedication or adverse possession of the fisheries, might be successful. Texas and California courts have recently abrogated private property rights in shoreline areas on implied dedication grounds.⁴⁹ In New Hampshire, the State Supreme Court has ruled that the public can acquire private property by adverse possession.⁵⁰ The court reasoned "that the policy

behind the law (of adverse possession) was full land utilization."⁵¹ Such reasoning could be applied to konohiki fisheries which have fallen into disuse. Hawaii courts have stated a willingness to re-examine "legal fictions and wooden rules of property."⁵² Given the strong public trust stance of the Hawaii Supreme Court, the constitutional mandate to further self-sufficiency,⁵³ the desire of the framers of the present State Constitution to see the "protection, development, and use of natural resources according to principles that will assure their highest economic or social benefit,"⁵⁴ and the disuse of most konohiki fisheries today, the implied dedication/adverse possession approach bears consideration.⁵⁵

In sum, the state may address the restrictions placed on an ocean leasing program by the existence of konohiki fishing rights in the following ways: (1) the Legislature may specifically exclude konohiki fisheries from any ocean leasing program; (2) the Legislature may determine that an ocean leasing program is to include konohiki areas for non-fishing and possibly mariculture uses (a problematic course of action); (3) the state may choose to condemn the remaining konohiki fisheries, as intended by Section 96 of the Hawaii Organic Act; or (4) the state may file a claim to ownership of unused and unpoliced konohiki fisheries on behalf of the public, based on implied dedication and/or adverse possession by the public.

FOOTNOTES

1. David Starr Jordan and B. W. Evermann, "Preliminary Report on An Investigation of the Fishes and Fisheries of the Hawaiian Islands," (1902), pp. 359-360, state: "Previous to about 1830 a state of affairs very much resembling the feudal system of Europe during the middle ages existed on the (Hawaiian) islands. . . A unique feature of this system was that not only were the lands owned by the Chief but the exclusive right to fish in the waters of the ocean adjacent to the estates was in most instances considered a part of the estates themselves."
2. Richard Kosaki, "Konohiki Fishing Rights," Legislature Reference Bureau, Report No. 1 (1954), p. 1 states: "The word konohiki originally was the designation for the agent who managed the chief's land. In the course of time, however, it came to refer to the things that were the private property of the chief himself, thus, konohiki fisheries means the chief's or privately owned fisheries." The word konohiki replaced the word "landlord" in Hawaiian law upon the adoption of the first comprehensive Civil Code in 1859.
3. The U.S. Supreme Court has declared, in Damon v. Hawaii, 194 U.S. 158, 159 (1904), "The right claimed is a right within certain metes and bounds to set apart one species of fish to the owner's sole use, or, alternatively, to put a taboo on all fishing within the limits for certain months, and to receive from all fishermen one-third of the fish taken upon the fishing grounds. A right of this sort is somewhat different from those familiar to the common law, but it seems to be well known to Hawaii, and, if it is established, there is no more theoretical difficulty in regarding it as property and a vested right than there is regarding any ordinary easement or profit a prendre as such. The plaintiff's claim is not to be approached as if it were something anomalous or monstrous, difficult to conceive and more difficult to admit. Moreover, however anomalous it is, if it is sanctioned by legislation, if the statutes have erected it into a property right, property it will be, and there is nothing for the courts to do except to recognize it as a right." (Citations omitted)
4. See generally, Neil Levy, "Native Hawaiian Land Rights" 63 California Law Review 848 (1975), J. Chinen, The Great Mahele (1958).
5. Gordon Trimble, Legal and Administrative Aspects of An Aquaculture Policy for Hawaii, Hawaii State Department of Planning and Economic Development (1972), p. 31.

6. See M. Kelly, Changes in Land Tenure in Hawaii (1956), unpublished thesis in U.H. Library. Frank Goto, "Fishing Rights," unpublished manuscript, p. 1, states the ahupua'a "was looked upon as an ideal self-sustaining piece of land. The typical ahupua'a would be capable of yielding timber and food from the mountains and forests, agricultural goods from the lowlands and sea products from the ocean bordering it." (Footnotes omitted) The island fisheries were an important aspect of this scheme. Seafood (fish, shellfish, limu) provided the main source of protein in the traditional Hawaiian diet. Margaret Titcomb, Native Use of Fish in Hawaii (1972), p. 1.
7. Goto, supra, note 6, p. 2, states "The kapus pertaining to ocean fisheries, i.e., onshore and open sea fisheries, appear to be part and parcel of a logical conservationist principle which Native Hawaiians adhered to. The concepts of not over-fishing a certain specie of fish and allowing a specie to bear offspring in its spawning period insured an adequate supply of fish for future needs." (Footnotes omitted) John Khil, "Evolution of Sea Fishery Rights and Regulations in Hawaii and Their Implications for Conservation," unpublished manuscript dated December, 1978, concludes at p. 58: "We have seen in the evolution of property rights and regulations, for sea fisheries in Hawaii, a unique transformation of institutions from the traditional ahupua'a system to the private konohiki fishery system to the current system of government controls under the common property concept. Throughout this institutional transformation, fishery conservation concerns were clearly evident." The Honolulu Advertiser stated in an editorial, "Hawaii's Seafood at Issue," dated April 13, 1954: "Proceedings in 'eminent domain' will be heard on May 26 before Judge Philip L. Rice at Lihue to determine how much money the government must give owners of 'konohiki' rights for their fishing grounds on Kauai's shores. . . The courts can determine only the value of the fishing rights, they have no power to say whether it is wise to open to public exploitation the fishing grounds that heretofore have been safeguarded by konohikis. . . Owners of fishing rights who are far-sighted--and many of them are--do not allow their fishermen to keep inshore fish that have not reached the spawning stage. This is of special concern in the propagation of mullet."
8. Jordan and Evermann, supra, note 1, p. 360, severely criticized the system of exclusive fisheries: "As a result of this condition of affairs the common people were prevented from gathering from the sea, without vexatious restrictions and grievous exactions, that very necessary part of their food supply which they so much loved and which the sea could furnish in such abundance. The only redeeming feature in this was that if his landlord became too exacting the tenant could move on to the land of some more lenient taskmaster. As the

importance of the chief was determined largely by the number of tenants he had on his lands, this proved at times a check on the rapaciousness of some of the chiefs." Jordan and Evermann do acknowledge the conservation benefits of the private fisheries, however, p. 370: "The abolishment of these fishery rights will, in some instances, work very serious damage to the commercial fisheries if proper laws are not provided to take the place of the old restrictions. Under the laws governing these fisheries at present, the owner can, and in some places does, protect certain species, particularly the mullet, during the spawning season by placing a tabu on them, and as everybody had to account to him when fishing he could easily prevent the use of destructive forms of apparatus or overfishing."

9. Laws regulating konohiki fishing rights are found at present in H.R.S. Sections 188-4 through 13. They are basically those stated by the U.S. Supreme Court in Damon v. Hawaii, supra, note 3. In addition, there is a section on tenants' rights (188-5), which is discussed in more detail later. See specifically note 27 below. The Civil Code of 1859 added to the laws of 1840 the proviso that the konohiki fishing grounds extend "where there happen to be no reefs, from the distance of one geographical mile seaward to the beach at low water mark." (Section 387) Jordan and Evermann, supra, note 1, pp. 366-370, detail the relevant official dicta on konohikis from 1839 to the Organic Act. Kosaki, supra, note 2, pp. 1-2, Goto, supra, note 6, pp. 3-8, and Khil, supra, note 7, pp. 9-17 all review the declaration and clarification of konohiki rights from 1839 to the present.
10. Khil, supra, note 7, p. 11. The allodial tenure system recognizes hereditary rights of property. James Shon, Hawaii Constitutional Convention Studies, 1978: Article X, Article XI, Legislative Reference Bureau (1978), p. 42 states: "The Great Mahele was a dramatic departure from the traditional system of land ownership where, if a chief or a landholder died, the land did not pass to the chief or landholder's family, but reverted back to the King. The Great Mahele changed this by incorporating the concepts of private ownership." (Footnotes omitted)
11. Theon Wright, The Disenchanted Isles (New York:Dial Press, 1972), p. 35. A list of konohiki fishery owners compiled by Khil, supra, note 7, pp. 33a and 33b, based on data from the Attorney General's office, the Division of Land Management (DLNR) and the State of Hawaii Survey Division obtained in 1978, shows for example that most of the konohiki fisheries still existing today were at the time of their registration owned by Bishop Estate, Campbell Estate, L. L. McCandless, Liliuokalani, McBryde Sugar Company, Puna Sugar Company, and

other large estate holders who for the most part today remain the owners. Other fishery owners have included Kapiolani Estate, Ltd., Hawaiian Dredging and Construction Co., Bishop Trust, H.K.L. Castle, and Damon Estate. *Id.*, data charts on pp. 27, 33; State v. Hawaiian Dredging, 397 P. 2d 593 (1964).

12. Khil, supra, note 7, p. 12.
13. Jordan and Evermann, supra, note 1, p. 370 state: "The owners of fishery rights usually lease them to Japanese, Chinese and Hawaiians." An appraisal team of Campbell Crozier, Deputy Tax Commissioner, Samuel W. King and John Child, Jr. reported in 1947 that "several fisheries in the Kaneohe Bay area were being leased to the Hawaiian Tuna Packers, Ltd. as a source of nehu baitfish for tuna. This was true also for the Kahaluu and Heeia fisheries." Khil, supra, note 7, p. 30.
14. Jordan and Evermann, supra, note 1, p. 371 noted that already in 1902 the valuable fisheries near Honolulu "are rapidly falling off in amount, with a corresponding rise in the prices for fish, which are now perhaps higher than in any other seaport town in the world." A 1939 State Legislature Judiciary Committee report on a proposal to fund fishery condemnations stated: "Experts have told us that, within the next eight or ten years, the value of these fisheries will be reduced to a comparatively low figure as, at the present rate, most of the fish which are still found in large numbers in these fisheries, will have disappeared by reason of depletion." Quoted in Kosaki, supra, note 2, p. 19. The 1947 Crozier, King, and Childs appraisal bore these experts out; the appraisals "were downward biased compared to earlier appraisal attempts." Khil, supra, note 7, p. 30. The Honolulu Advertiser, supra, note 7, stated in 1954: "Nearly everyone who has lived in the Islands for three or more decades noticed the rapid decline of the inshore fish food supply."
15. The Hawaii State Constitutional Convention Committee on Hawaiian Affairs, Standing Committee Report No. 57 (August 29, 1978), p. 7, states that the traditional Hawaiian culture centered on the ahupua'a, with the tenants (common people) engaging "in subsistence gathering and hunting activities that consumed but did not deplete the natural resources."
16. See Hawaii Fisheries Development Plan, State Department of Land and Natural Resources (1979), pp. 3, 6, 13. This document "focuses upon distant water fisheries since the near-shore fisheries offer little hope for substantially increased landings." *Id.*, p. 3.
17. Khil, supra, note 6, p. 34. This statement was directly affirmed by one konohiki owner, Robert Hanohano. Personal

interview May, 1980. An earlier confirmation is found in a letter written by then Hawaii Attorney General Howitt, dated July 27, 1931, regarding his investigation of konohiki fishing rights: "I have discussed fishery matters with various owners; and from many of them have found that this pseudofeudal system prevailing in respect to private ownership of fisheries is resulting in a source more of annoyance and unpleasantness than profit; that, due to the difficulty of adequately protecting private rights, it has been impossible in many instances to maintain lessees in these fisheries or to secure adequate rentals therefor." Quoted in Kosaki, supra, note 2, p. 16. Trimble, supra, note 5, pp. 34, states: "At present this is largely a moot question for few people exercise their konohiki fishing rights."

18. Kosaki, supra, note 2, p. 6. The Hawaii Supreme Court in Bishop v. Mahiko, 35 Haw. 608 (1940) stated at 637: "Explicit and implicit in sections 95 and 96 of the Hawaiian Organic Act is the purpose of the Congress of the United States to make all fisheries in the sea waters of the Territory, not included in any fish pond or artificial enclosure, free to all citizens of the United States. . . No claim is made [by plaintiffs] that the Congress of the United States was without authority to repeal the pre-existing laws of the Republic of Hawaii which conferred exclusive fishing rights."
19. 35 Haw. 608, 676-677: "Upon this branch of the case we conclude that, even though statutory rights to private fisheries in the sea waters of the Territory of Hawaii at the time of annexation of the Hawaiian Islands to the United States were vested rights and the titles of the owners thereof were entire, complete and not inchoate, in the absence of official records of the boundaries of such private fisheries, it was within the power of the Congress of the United States, in accomplishment of its declared purpose to make all sea fisheries in the sea waters of the Territory not included in any fish pond or artificial enclosure free to the citizens of the United States, to provide reasonable means for the segregation and final acquisition of such fishing rights." The court continued at 679: "Holding as we do that the establishment of a private fishery is but the preliminary step provided in the proceedings in condemnation authorized by section 96 of the Hawaiian Organic Act, the failure to establish a private fishing right constitutes, in legal effect, a waiver to compensation."
20. *Id.*, 679: "The legal effect of failing to assert a claim to a private fishing right was not to vest the right in the United States in a proprietary sense but simply to relinquish the fishery subject thereto to the free use and enjoyment of all citizens of the United States--to convert an exclusive

private fishing right into a public fishing right, the free use of which might be enjoyed in common by all citizens of the United States, including, if citizens, the trustees and tenants."

21. 14 Haw. 465 (1902).
22. The court stated, 14 Haw. at 473: "It is clear from a review of these statutes that the following are necessary inferences, to-wit, that the plaintiffs cannot base any claim to the fisheries on ancient custom or prescription; that no right that they may have possessed can antedate the Act of 1839; that all right in the fisheries of whatever nature that had been enjoyed by any subject prior to that date was revoked and annulled by said Act and that all claims must now date from the Act of 1839 or from some subsequent date." The court continued at 475: "If the 'private property' possessed by the konohiki in the fishery was only the right given by the statute then it follows that when the statute was repealed there was no further claim of 'private property' in the fishery because that which gave the right or 'private property' was no longer in existence. In this view, and we take it to be the correct view, the plaintiffs could acquire no vested right in the fishery. While the statutes were in force plaintiffs' private property in the fishery was protected but when they were repealed there was no property in the res. These statutes were general laws. 'Citizens have no vested rights in the existing general laws of the State which can preclude their amendment or repeal, and there is no implied promise on the part of the State to protect its citizens against incidental injury occasioned by change in the law.' Cooley, Const. Lim., p. 343." The court also dismissed arguments that the claimants held vested interests based on grant or as an appurtenance to the land. The court held that while the konohiki statutes were in force, the statutes declared fishing rights to be private property, "and as such could not pass as an appurtenance to the land; that in order to convey it [the konohiki rights] specific words of grant must be used in the conveyance for that purpose." Id., 476. In the claimants' cases, their grants were defective. Turning directly to public trust arguments, the court concluded, at 479-480: "Under the common law the right of fishing in the open sea like that of navigation was a public right. The grant of an exclusive right to a sea fishery cannot be presumed. Every presumption is against the grant and in favor of the public. Every ambiguity or doubt in the instrument by which the right is claimed to be granted will be construed most strongly against the grantee."
23. Damon v. Hawaii, 194 U.S. 154 (1904), Carter v. Hawaii, 200 U.S. 255 (1906). See quote from Damon, footnote 3, supra.

24. Damon v. Hawaii, 194 U.S. 154, 160 (1904).
25. Kosaki, supra, note 2, p. 10, reproducing data submitted to Attorney General J. V. Hodgson in 1939 by Commissioner of Public Lands and Surveyor L. M. Whitehouse.
26. Khil, supra, note 7, p. 25 and maps on pp. 33c-33f, based on data compiled in 1978 from Attorney General's office, DLNR Division of Land Management, and the Survey Division. Shon, supra, note 10, p. 28 says state officials in 1977 estimated there were only ten to 20 outstanding konohiki fisheries yet to be condemned. Khil's figure, seemingly based on more specific data than was available to Shon, and bearing a later research date, will be taken here as accurate. As to why condemnation efforts have not been more forceful, these are described by Kosaki, supra, note 2, pp. 21-30. The reasons come down to cost, and conservation. Condemnations have occurred only where a public need has arisen which clearly required the institution of proceedings to end private access rights, or to open fisheries to the public. Eg., fourteen and 1/2 fisheries were acquired by the United States in the Pearl Harbor area during the 1930's pursuant to H.R. 8294 approved by Congress on April 14, 1930. In 1941 the Territory of Hawaii instituted a condemnation action to obtain the fishery of Mokauea in Keehi Lagoon in aid of the Keehi Lagoon trans-pacific seaplane harbor. State v. Hawaiian Dredging Co. et. al., 397 P. 2d 593, 596 (1964). The Kahana fishery was condemned in 1970 "when the City and County bought beach lands around the bay for conversion into a public park and recognized the need for an open fishery for the full enjoyment of the area." Khil, supra, note 7, p. 33. The most recent condemnation occurred for a similar reason. The Keawaula fishery at Kaena Point was condemned following the State's purchase of lands in that area to develop a beach park. *Id.*
27. This recognition is presently found in H.R.S. Section 188-5: "The konohiki shall be considered in law to hold the private fisheries for the equal use of themselves and of their tenants on their respective lands, and the tenants shall be at liberty to take from the fisheries, either for their own use, or for sale or exportation, but subject to the restrictions imposed by law, all fish, seaweed, shellfish, and other edible products of the fisheries."
28. 2 Haw. 62 (1858).
29. *Id.*, at 70-71: "M. Kekauonohi [the konohiki owner] herself was not possessed of an exclusive right. It may even be doubted whether she could have conveyed away the portion of the fishing ground lying opposite to Puuloa, or her special rights therein, so as to divide the fishery, without infringing-

ing on the rights of the tenants living on 'Honouliuli.' Certainly if her grantee had tabooed one kind of fish, on his part of the ground, while she tabooed another kind upon the other part, the rights of the tenants would have been violated. And if she could have divided the fishing ground into two parts, she could have divided into twenty, and so have rendered the rights of the tenants worthless."

30. Id., 68.
31. 2 Haw. 62. The court stated at 71: "When he [Montgomery] received a conveyance of a portion of the Ahupuaa of 'Honouliuli,' he acquired along with it a common right of piscary in the fishing ground adjacent. That is to say, he became, for the purpose of the law, governing this subject, a tenant of the Ahupuaa, and as such entitled to take fish in the sea adjoining. We understand the word tenant, as used in this connection, to have lost its ancient restricted meaning, and to be almost synonymous, at the present time, with the word occupant, or occupier, and that every person occupying lawfully, any part of 'Honouliuli,' is a tenant within the meaning of the law."
32. 31 Haw. 678 (1930).
33. Id., 693. The court held that "the statutory provisions of 1846 amounted to nothing more than an offer to give them certain fishing rights when they should become tenants,--an offer which was withdrawn before they were in a position to accept it. When the repealing statute went into effect there had been no identification of the tenant or of the land or of the fishery. Under these circumstances it cannot properly be said that there had been any vesting." Id. The court stated at 696: "After April 30, 1900, the repealed laws were no longer in existence and no new rights could be created thereunder on behalf of persons becoming for the first time tenants."
34. The vested rights of hoa'aina who were tenants prior to 1900 are not even certain. The most the court would say in Damon v. Tsutsui was dicta that "the laws now repealed were in force and effect until April 30, 1900, and . . . certain rights became vested thereunder in konohikis and perhaps also in tenants who occupied the land before that date. (This latter point also we do not decide.)" (Emphasis added) Id., at 696.
35. U.S. v. Shingle, Civil No. 290 (1934), p. 9.
36. U.S. v. J.L.P. Robinson, Civil No. 292 (1934), p. 28.
37. Id., p. 30: "It seems a just and reasonable view that the validation by the konohikis would satisfy the intention of the

law and would be held such a validation as would preserve and perpetuate the rights of all tenants having vested, though subordinate, rights." With regard to the compensation question which raised the legal issue of tenant rights, however, the court in U.S. v. Robinson did not set a compensation value on the *hoa'aina* right, but stated, "It is not humanly possible to compute the value of this *hoa'aina* right under the evidence adduced at the hearing of this proceeding. . . There is, in short, no showing in this case (and doubtless no showing could be made) upon which may be predicated any award, in any definite amount, as 'just compensation' for the taking of the *hoa'aina* right of piscary of Dowsett Co., Ltd. . . The result must be that out of the aggregate sum of \$5,833.33 which the Government must pay as compensation for the property actually taken (the Hoaeae and Apokaa fisheries) it should be adjudged that Dowsett Co., Ltd. [the tenant] is entitled to share in the sum thus awarded and should receive such portion of said sum as represents (a) the value of its *Hoa'aina* right of piscary in (b) the Hoaeae fishery only. . . If an amicable adjustment can be made between the parties hereto the Court will approve such distribution of the said fund as may be agreed to; and this is all the Court at this time can do." Quoted in Kosaki, supra, note 2, p. 28. In the other cases involving *hoa'aina* awards, the court specified that only nominal damages of \$1.00 were to be paid. Kosaki, p. 29.

38. Con-Con Committee Report No. 57, supra, note 14, p. 6.
39. Id. The Committee stated: "While for the most part the courts have treated such vested rights as proprietary interests, your Committee feels that a more accurate description of these rights is to refer to them as personal rights. . . Although a tenant may not own any land in the *ahupua'a*, since these rights are personal in nature, as a resident of the *ahupua'a*, he may assert any traditional and customary rights necessary for subsistence, cultural or religious purposes." Id., pp. 6-7.
40. Daniel Finn, "Hawaii Caselaw Relating to Coastal Zone Management," in Legal Aspects of Hawaii's Coastal Zone Management Programs, Daniel Mendelker, ed., Hawaii State Department of Planning and Economic Development (1976), p. H-16.
41. Trimble, supra, note 5, p. 34.
42. Shon, supra, note 10, p. 28.
43. Con-Con Committee Report No. 57, supra, note 15, pp. 6.
44. Thomas Kane, Aquaculture and The Law, University of Miami Sea Grant Program (1970), p. 30.

45. Polly McGlew and David Brown, "Legal and Institutional Factors Affecting Mariculture in Texas," Coastal Zone Management Journal (Vol. 6, No. 1, 1979), p. 71.
46. H.R.S. Section 188-4, Konohiki rights, states: "The fishing grounds from the reefs and where there happen to be no reefs, from the distance of one geographical mile seaward to the beach at low watermark, shall, in law, be considered the private property of the konohiki, whose lands, by ancient regulation, belong to the same; in the possession of which private fisheries, the konohiki shall not be molested, except to the extent of the reservations and prohibitions hereafter in this chapter set forth." The private owner and tenants must be able to continue their activities without significant impairment, or the State's action in licensing a mariculture operation would constitute a "taking," and compensation would have to be paid.
47. The Constitutional Convention Committee on Environmental, Agriculture, Conservation and Land, Standing Committee Report No. 77 (September 7, 1978), p. 4, recommended that the constitutional provision mandating condemnation of vested fishing rights (former Article XVI, Section 13) be consolidated with then Article X, Section 3, dealing with marine resources, and that condemnation be made optional rather than mandatory. The Committee made this recommendation upon "the belief that it may not be in the public interest to condemn all konohiki rights." Id. The Committee did not give its specific reasons for this belief, but since this statement followed a discussion of mariculture potential in Hawaii, the Committee may have had in mind the possibility of konohiki owners privately leasing ocean areas to mariculturists to expedite the development of mariculture. See discussion of this possibility, note 48, below, and accompanying text. The recommendation of the Committee was followed. The condemnation provision is now part of Article XI, Section 6, on "Marine Resources," and reads simply, "All fisheries in the sea waters of the State not included in any fish pond, artificial enclosure or state-licensed mariculture operation shall be free to the public, subject to vested rights. . . . The State may condemn such vested rights for public use." Despite the view expressed by the Con-Con Committee, this report suggests that condemnation of existing private fisheries would presently serve the public interest, if carried out in conjunction with the enactment of ocean leasing legislation.
48. A konohiki owner could lease his exclusive fishing right to a mariculturist, subject only to shared use with any ahupua'a tenants, or he could taboo the particular species of animal or plant being raised, if the mariculture enterprise is a monoculture operation. If the latter, tenants would have to observe the taboo as well as the general public. Khil, supra, note

7, pp. 36-38, discusses this possibility. Khil states, p. 37, "The major deterrent for offshore aquaculture development, which appears to be an inability of entrepreneurs to enforce private claims to aquatic products under culture, may be resolved through the use of konohiki privileges." It appears that a mariculturist could commence operations now within a konohiki fishery, with the owner's permission, and receive the protections at law which the mariculturist needs--security of tenure and security of property.

49. Seaway Company v. Attorney General, 375 S.W. 2d 923 (Tex. Civ. App. 1964), Gion v. City of Santa Cruz, 2 Cal. 3d 29, 465 P. 2d 50, 84 Cal. Rpts. 162 (1970). The court in Seaway stated, at 936: "The act of throwing property open to the public use, without any other formality, is sufficient to establish the fact of dedication to the public." In Gion, the court found dedication implied where the public had used a beach "for a period of more than five years with full knowledge of the owner, without asking or receiving permission to do so and without objection being made by anyone." 2 Cal. at 38, 465 P. 2d at 56, 84 Cal. Rpts. at 168.
50. Elmer v. Rodgers, 106 N.H. 512, 214 A. 2d. 750 (1965).
51. Michael Town and William Yuen, "Public Access to Beaches in Hawaii: 'A Social Necessity'," X Hawaii Bar Journal (1973), p. 20.
52. Lemle v. Breeden, 50 Haw. 426, 433, 462 P. 2d 470, 474 (1969).
53. Hawaii State Constitution, Article XI, Section 1.
54. Hawaii State Constitutional Convention Committee on Environment, Agriculture, Conservation and Land, Standing Committee Report 77 (September 7, 1978), p. 2.
55. The objection can be raised, however, that litigation seeking public ownership on these grounds may turn out to be more costly to the state than simply condemning and purchasing the fisheries. Also, the mandate and past actions to condemn konohiki fisheries stemming from the Hawaii Organic Act may nullify in the court's judgment arguments supporting the dedication/prescription contention.

D. COMMON LAW AND STATE LAW RESTRICTIONS UPON STATE AUTHORITY

3. Riparian and Littoral Rights

Q: What are the common law and state law restrictions upon the state's authority over its offshore waters?

A: Riparian owners may have certain rights, such as the right to ingress and egress to and from the ocean waters adjoining their property. However, there is no statutory law in Hawaii which recognizes any riparian rights in ocean waters.

A riparian or littoral owner is a landowner who has certain property rights in a body of water adjacent to his land.¹ Riparian rights are determined wholly by state law. They are common law rights as modified by statute, custom, or judicial precedent.² In Hawaii, no statute exists concerning riparian or littoral rights in ocean waters.

Broadly speaking, the common law riparian rights that may be applicable to landowners abutting ocean waters are the right of access to the water,³ and the reasonable use of the water for bathing, swimming, boating, fishing, etc.⁴ Some states recognize a common law riparian right to build a pier or wharf out to the point of navigability.⁵ The right of a riparian owner to an unobstructed view of or over adjacent waters has been recognized in Florida.⁶

However, there is no uniformity in the recognition of riparian rights in other states. In some jurisdictions, no riparian rights whatsoever can be claimed against the state in navigable waters.⁷

The one riparian right applicable to ocean waters which seems to be almost universally recognized is the right of ingress and egress to and from the navigable waters adjoining the riparian owner's property.⁸ This may have an impact on mariculture activities which utilize structures which may block access of the riparian owner to the ocean for purposes of navigation. If such is the case, the riparian owner may be entitled to compensation for the

loss of his property right of access to the water. This right of access may be a problem where a small bay or enclosure is closed off for a mariculture activity. However, if the riparian right of ingress and egress is not substantially impaired, no compensation will be required.⁹ Also where the State clearly acts to further the purposes of the public trust over public resources, compensation may not be required. In Colberg, Inc. v. State (1967),¹⁰ the Supreme Court of California stated:

"Whatever the scope and character of their (riparian owners) right to have access to those navigable waters, we hold that such right is burdened with a servitude in favor of the state which comes into operation when the state properly exercises its power to control, regulate, and utilize such waters."¹¹

In State v. Zimring (1977),¹² the Hawaii Supreme Court stated that "the law in other jurisdictions makes it clear that the preservation of littoral access is not sacrosanct and must sometimes defer to other interests and considerations."¹³ The court cited the California case of Los Angeles Athletic Club v. Santa Monica (1944)¹⁴ which stated,

"It is well settled that the littoral rights of an upland owner who owns no title to tidelands adjoining his property are subject to termination by whatever disposition of tidelands the state, or its grantees, in the exercise of their trust, choose to make."¹⁵

The riparian right to build a pier or wharf appears to have some judicial recognition in Hawaii. In Territory v. Kerr (1905),¹⁶ the Hawaii Supreme Court upheld an injunction against a riparian owner who was building a seawall between the high and low water marks fronting his property. (The wall projected at one point below the low water mark.) The riparian owner was attempting to fill the space enclosed by the wall with coral and sand for the purpose of building a residence thereon. Stating the riparian owner's property extended only to the high water mark, the court held that the proposed private use of public property could not be allowed.

In making its decision, the court stated,

"The immunity with which littoral proprietors whose grants are bounded by the shore may construct and maintain below high water mark wharves, landings and piers not interfering with or obstructing navigation, rights-of-way or of fishing may be termed a right incident to such proprietorship or otherwise designated; but to erect wharves, landings and piers on the shore when the shore is owned by the United States cannot be regarded from the point of view of the public interests as the same with the erection of residences."¹⁷

The court concluded that the structures being built by the riparian owner were impermissible because they prevented public use of the shore for passage over it, and furnished no compensatory advantages to the public.¹⁸ However, it is important to note that the court did recognize (in dictum) the right of a riparian owner to build wharves, landings and piers so long as they do not interfere with navigation, rights-of-way, or fishing. Of course, in order to exercise the riparian right to build a wharf or pier, the riparian owner must obtain proper permission from federal and state authorities.¹⁹

A riparian owner may also be entitled, in common with the public, to the right of boating, bathing and fishing within ocean waters adjacent to his land.²⁰ An ocean leasing scheme with specific protections for public activities will minimize adverse effects upon the rights of riparian owners in addition to protecting the public trust.²¹

Whether Hawaii would recognize other riparian rights, such as the right to an unobstructed view over the waters, remains to be seen. Since neither the Hawaii Legislature nor the Hawaii courts have directly addressed the issue of compensation for the impairment of ocean littoral rights, the status of such rights in Hawaii remains unsettled.

FOOTNOTES

1. Strictly speaking, a riparian owner is one whose land borders a river or stream, and a littoral owner is one whose land borders a lake or sea. However, the term "riparian" is commonly used to refer to land abutting any body of water. Hereinafter, "riparian owners" will be used to refer to those landowners abutting the ocean. See, T. Kane, Aquaculture and the Law, 36, University of Miami Sea Grant Program (1970).
2. In Carter v. Territory of Hawaii, 24 Hawaii 47 (1917), the Hawaii Supreme Court stated, "Private water rights in this Territory are governed by the principles of the common law of England except so far as they have been modified by or are inconsistent with Hawaiian statutes, custom or judicial precedent." Id. at 57. In McBryde Sugar Co. v. Robinson, 54 Hawaii 174 (1973), cert. denied and appeal dismissed sub. nom. McBryde Sugar Co. v. Hawaii, 417 U.S. 962 (1974), the Hawaii Supreme Court, relying on Counter has made rulings regarding appurtenant and riparian rights to freshwater. The court ruled that water rights acquired by virtue of ownership of lands adjoining a stream could not be transferred to other parcels. The court also held that the State owned all surplus water. These rulings have been challenged and enjoined by the federal District Court of Hawaii; Robinson v. Ariyoshi, 441 F. Supp. 559 (D. Hawaii 1977), appeal docketed, Civ. No. 78-2264 (Ninth Cir., filed November 28, 1978) and Patterson v. Burns, 327 F. Supp. 745 (D. Hawaii 1971).
3. Peck v. Alfred Olsen Constr. Co., 238 N.W. 416 (Iowa 1931); Yates v. Milwaukee, 10 Wall. 497, 19 L. Ed. 984 (1870); Colberg, Inc. v. State, 67 C. 2d 408, 62 Cal. Rptr. 401, 432 P. 2d 3 (1967), cert. den. 390 U.S. 949 (1968); Brusco Towboat Co. v. State, 30 Or. App. 509, 567 P. 2d 1037 (1977), affd. in part, revd. in part on oth. grds., 284 Or. 627, 589 P. 2d 712 (1978). See generally, 1 Farnham, Waters and Water Rights 278 (1904).
4. Freed v. Miami Beach Pier Corp., 112 So. 841 (Fla. 1927).
5. Thiesan v. Gulf, F. & A. R. Co., 75 Fla. 28, 78 So. 491 (1917).
6. Brusco Towboat Co. v. State, supra, note 3; Freed v. Miami Beach Pier Corp., supra, note 4.
7. Port of Seattle v. Oregon & Washington R. Co., 255 U.S. 56 (1921) (The U.S. Supreme Court stated, "It appears . . . that the law of Washington does not recognize as appurtenant to upland, tideland, or shore land in its natural condition,

rights of any sort beyond the boundaries of the property." Id. at 67.); Harris v. Hylebos Industries, Inc., 81 Wash. 2d 770, 505 P. 2d 457 (1973).

8. See note 3, supra.
9. Kane, supra, note 1, at 40.
10. 67 C. 2d 408, 62 Cal. Rptr. 401, 432 P. 2d 3 (1967), cert. den. 390 U.S. 949 (1968).
11. Id., 67 C. 2d at 422.
12. 58 Hawaii 106, 566 P. 2d 725 (1977).
13. 58 Hawaii at 119, 566 P. 2d. at 734. (The court made this statement in a discussion of the riparian right of accretion, whereby the area of owned land is increased by the gradual deposit of soil due to the action of a bounding body of water. It has sometimes been held that accretions do not belong to the riparian owner and therefore the right of access to the water is cut off.)
14. 63 Cal. App. 2d 795, 147 P. 2d 976 (1944) (Again, this statement was made in regard to accretions.)
15. 58 Hawaii at 120, 566 P. 2d at 734.
16. 16 Hawaii 363 (1905).
17. Id. at 369.
18. Id. at 376.
19. At present, in order to construct a wharf or pier in state navigable waters, the applicant must obtain a federal permit from the U.S. Army Corps of Engineers (See subsection V(C)(1)) and a state permit from the Department of Land and Natural Resources (i.e. a Conservation District Use Permit. See Section VI).
20. Kane, supra, note 1, at 46.
21. In Colberg, Inc. v. State, supra, note 3, the California Supreme Court stated,

"It appears that in some states the [state's] servitude operates only when the state acts upon its navigable waters for the purpose of improving navigation, and that private rights 'damaged' by acts not in aid of

navigation are therefore compensable. . . . This appears to be the law of the State of New York. . . . Other jurisdictions hold as we do in the instant case, that the state's servitude operates upon certain private rights, including those of access, whenever the state deals with its navigable waters in a manner consistent with the public trust under which they are held." [Emphasis supplied] [citations omitted] 432 P. 2d at 13.

SECTION

6

VI. THE CURRENT REGULATORY FRAMEWORK OF THE STATE OF HAWAII

A. INTRODUCTION

This section lists and briefly describes state and county permit and environmental review processes which are, or may be applicable to activities seaward of the shoreline.¹ The State Department of Planning and Economic Development (DPED) publication, Permits and Environmental Requirements for Aquaculture in Hawaii² is the basic reference for the information contained herein.

At the outset it should be noted that activities which require a lease of state land (offshore submerged lands included) require approval by the Board of Land and Natural Resources (BLNR).³ All leases issued are required to identify the specific uses for which the land is to be employed, any improvements required, restrictions against alienation, and the length of the next term (as established by the Board or at public auction). Leases must contain provisions reserving public rights-of-way and access to beaches, and preventing nuisances and waste. Leases may also stipulate other terms and conditions as the Board deems advisable to effectuate the purposes of the State Constitution.⁴

Uses seaward of the shoreline are regulated principally by permit procedures of various State and Federal agencies. Overlaying these individual agency jurisdictions are the broad goals, objectives and policy statements of the Hawaii Coastal Zone Management Act,⁵ which complies with the requirements of the national Coastal Zone Management Act of 1972.⁶ State government regulations are subject to the objectives and policies of the Hawaii State Plan, specifically to those relating to shoreline and marine resources⁷ and to Article XI, Section 6 of the Hawaii Constitution which addresses concerns regarding marine resources.

Since the laws governing land and water uses are broadly written, agency discretion is necessary for determining their

applicability to specific offshore projects or operations. Mariculture projects, for example, may take various forms as a function of the type of culture system, the location of the facilities, water usage, proposed effluent management practices and overall environmental impact considerations. The actual number, or types of permits which might be required by any specific mariculture operation would depend on how the proposed operation interfaced with these regulatory concerns. OTEC and other fixed-location ocean activities for which state licensing may be sought would also be subject to these same concerns.

However, while individual state agencies would thus exercise jurisdiction over various specific aspects of any offshore commercial or experimental ocean activity, there is serious question whether any one agency, or all collectively, have the legal authority at present to approve a fixed-location ocean activity. There is no question but that serious gaps exist in the present statutes, which prevent the development of a viable commercial ocean resource industry in Hawaii. Actions to remedy these gaps have been discussed throughout this report.

In broad outline, new offshore activities such as mariculture, OTEC, floating platforms, or fish aggregation buoys would presently be affected by the following state regulatory mechanisms.

B. CURRENT DEPARTMENT OF LAND AND NATURAL RESOURCES REGULATIONS

1. State Land Use Law

The Hawaii State Legislature adopted in 1961 a landmark State Land Use Law⁸ which established the State Land Use Commission and gave the Commission the responsibility to classify all land, public and private, into Urban, Agricultural, Rural, or Conservation districts. The individual counties exercise sole jurisdiction of land uses within Urban districts. The counties and the State Land Use Commission jointly regulate land uses within the Agricultural and Rural districts. The State Department of Land and Natural

Resources (DLNR), however, regulates uses within Conservation districts.

Included in the Conservation districts are the beach areas seaward of the maximum inland line of wave action, and all offshore submerged lands under State jurisdiction including nearshore lands beneath tidal waters, fish ponds, tidepools, and territorial waters. The State Land Use Law thus gives the State sole formal jurisdiction over activities conducted on submerged lands or in offshore waters. Certain operations clearly fall under DLNR's regulatory control. DLNR administers the Marine Life Conservation Program,⁹ for example, which includes all the marine waters of the State and which authorizes DLNR to regulate the taking of all fish and other marine animals within those waters.

2. Conservation District Use Permit

Anyone proposing to use Conservation district lands or waters for commercial gain must apply to the Department of Land and Natural Resources for a Conservation District Use Permit (CDUP). The Board of Land and Natural Resources (BLNR) then approves, denies or approves with conditions, such proposed uses.

Conservation district lands and waters are divided into four subzones, each with attendant permitted uses and nonconforming uses. The divisions and permitted uses are governed by DLNR's Regulation No. 4.¹⁰ The divisions include Protective (P), Limited (L), Resource (R), and General (G) subzones.

The Protective (P) subzone was established to conserve valuable resources in designated areas such as restricted watersheds; significant historic, archaeological, and geological sites; fish, plant, and wildlife sanctuaries; and other designated sites of unique physiographic significance. The objective of the Limited (L) subzones is to restrict uses where natural conditions (floods, erosion, volcanic activity, tsunamis, etc.) would suggest constraints on human activity. Resource (R) subzones are designated

as those areas where sustained use of the natural resources of the area can be assured with proper management. The General (G) subzone includes areas of open space where specific conservation uses may not be defined, but where urban use would be premature.

"Mariculture" and OTEC are not presently listed as permitted uses in Resource (R) and General (G) subzones. However, BLNR may determine whether a specific proposed use may be approved as a Conditional Use, or in the case of ocean farming activities, whether such use may be defined as "aquaculture" which is a permitted use.¹¹

Application forms for Conservation District Use Permits must identify the site of the proposed use, describe the plan and schedule of activities, set out the environmental conditions of the property, and include other information pertinent to project evaluation.

Applications are reviewed during regular Board meetings which are open to the public. Public hearings are required for all proposed commercial operations in Conservation districts and are held in the county in which the proposed site is located.

3. Historic Site Review

Offshore activities and projects are also subject to Historic Site Review.¹² DLNR reviews all projects which may affect designated (or eligible for designation) State or Federal historic sites. This review would be particularly pertinent to projects affecting traditional Hawaiian fish ponds or other submerged or partially submerged historic sites. Projects or activities which may adversely affect historic sites will not necessarily be prohibited as a result of this review, but Historic Site Program officials make every effort to preserve and protect such resources to the extent permissible by law.

Applicants must file a notice of intention to work on a site 90 days in advance of the proposed starting date. The

application must state the nature of the proposed construction, the precise location of such activities with respect to any historic site, and any efforts at preserving or limiting any disruption of historic sites which are to be affected. The Department of Land and Natural Resources must respond to the application within the 90-day notification period.

4. Enforcement Procedures

Under H.R.S. Chapter 199, the DLNR has an enforcement program for conservation and resources which includes enforcement officers.¹³ The enforcement officers investigate complaints, gather evidence, conduct investigations, check and verify all leases, permits and licenses issued by the Department.¹⁴ In addition, the enforcement officers have police powers which include the power to serve and execute warrants, issue citations, and arrest offenders and take them to a police station or before a district judge.¹⁵ Any equipment used in violation is declared to be a public nuisance and seizable, and, upon conviction, forfeitable to the State.¹⁶ The basic components of this system would be adequate as an enforcement program for ocean leasing. With minor modifications, Chapter 199 could be revised so as to include enforcement of ocean leasing statutes and regulations as part of the duties of DLNR and its enforcement officers.

C. DEPARTMENT OF TRANSPORTATION/DEPARTMENT OF HEALTH PERMITS

Two other State agencies also evaluate and give approval to most offshore activities. The Harbors Division of the State Department of Transportation (DOT) has authority to regulate construction activities and the erection or placement of any structure or material within shores or shorewaters of the State for protection of navigation and shoreline processes.¹⁷

Since January 1, 1978, permit application procedures for Conservation District Use Permits and DOT permits for work within shores or shorewaters have been consolidated into a single permit

system. Under this system only a Conservation District Use Permit need be submitted to the Department of Land and Natural Resources for shorewater projects.

The State Department of Health (DOH) has authority to regulate the discharge of wastewaters from fixed point sources into surface waters.¹⁸ Any project proposing to discharge effluent from defined point sources into coastal or estuarine environments is required to obtain a National Pollutant Discharge Elimination System (NPDES) Permit from DOH.

The NPDES permit process includes "zone of mixing" variance procedures for wastewater discharges which exceed the established standards of the receiving waters. The intent of the control program is to ensure that receiving waters are not degraded by any discharge.

Applicants must adequately describe the contents of the proposed discharge, provide data as to the nature and composition of aquatic, wetland, and marine species which might be affected by the proposed discharge, and submit an analysis of prevailing water currents, circulation and turnover rates.

Under new NPDES approval rules published by the federal government in 1979, a number of constraints relating to discharges from aquaculture facilities were eliminated. The regulations now allow an exemption (on a case-by-case basis) for concentrated aquatic animal production facilities (warmwater species) that produce less than 100,000 pounds of aquatic animals per year and for facilities which discharge less than 30 days per year. These new regulations remove the previous mandatory permit requirements for facilities culturing aquatic animals nonindigenous (non-native) to the United States.¹⁹

In line with its jurisdiction over water quality control the DOH also has authority to regulate the production and processing of shellfish grown in both natural and artificial environments.²⁰

Thus any offshore project which engages in the growing, harvesting, packing, shipping of fresh or frozen shellfish for sale to the public must possess a valid Shellfish Sanitation Certificate issued by the DOH. Certificates are generally issued on the basis of a DOH-conducted sanitary survey which determines actual or potential sources of pollution in the culture area.

D. ENVIRONMENTAL IMPACT STATEMENT REQUIREMENT

With the CDUP (DLNR/DOT) or NPDES (DOH) application a State Environmental Impact Statement (EIS) may also be required.²¹ An EIS is necessary for projects which will have a significant effect upon the environment and which fall within any of the following categories:

1. Projects involving State or County lands or funds;
2. Projects involving use of Conservation district lands (coastal waters included);
3. Projects proposing the use of any historic site listed in the National Register of Historic Places or the Hawaii Register (some fish ponds fall into this category); and
4. Projects requiring State or County permits or review actions.

State Environmental Quality Commission regulations grant decision-making authority regarding the necessity of an EIS to the first agency receiving the project approval application. This may be DLNR, DOT or DOH.

An EIS for any project must include a detailed description of the proposed project and a definition of the real or potential environmental impacts which might ensue if the project is implemented.

E. DEPARTMENT OF AGRICULTURE QUARANTINE LAW

Any offshore project calling for importation of species into Hawaii for research or commercial purposes would be regulated by

the Hawaii Plant Quarantine Law.²² This law is administered by the Department of Agriculture (DOA) under Regulation No. 2.²³ Applicants wishing to import any species into the Hawaiian marine ecosystem must obtain a permit from the Plant Quarantine Branch, DOA. Permit applications must include a detailed description of the imported species, the method of shipment, the facility in which the species is to be confined or cultured and the methods or techniques used to prevent the animal or plant from escaping into the wild.

F. COUNTY PERMIT AUTHORITY

County permit authority does not normally extend seaward of the legally defined shoreline, except for restrictions on the commercial removal of sand within 1,000 feet seaward of the shoreline or in shorewaters less than 30 feet in depth. However, as a policy matter, State and Federal agencies send project proposals to the respective county authorities to obtain input on a project's conformity to the applicable County General Plan.

It must be noted, however, that many offshore water projects will involve land-based support facilities and that these facilities, if located in the county's Special Management Area (SMA) or Shoreline Setback area, will require a county permit or variance.²⁴ The SMA permit is required for any development within the designated SMA which may significantly affect the shoreline and coastal zone. In each county the SMA is usually defined as including lands and waters lying between the shoreline and an established boundary at least 100 yards inland.

Applicants who seek an SMA permit must present data proving the proposed development will have no substantial adverse environmental or ecological effect, except as such adverse effect is minimized or clearly outweighed by public health, safety or compelling public interest.

A Shoreline Setback variance can be granted for a new structure, facility, or activity in most counties if it can be shown to be in the public interest, and if denial of the variance would pose a hardship to the applicant.

Since the SMA permit system overlaps the Shoreline Setback Area, the variance procedure is generally combined for ease of processing. Applicants must usually meet the data requirements of the SMA in order to obtain a Shoreline Setback variance.

A 1979 amendment to Chapter 250A, H.R.S., allows an exclusion from SMA permit requirements for aquaculture or mariculture facilities provided the cumulative impacts of the project do not pose a significant environmental effect on the SMA.²⁵

FOOTNOTES

1. The shoreline is defined in Chapter 205, Section 31[2], H.R.S., as the upper reaches of the wash of waves, usually evidenced by the edge of vegetation growth, or the upper line of debris left by the wash of waves.
2. Brewer, William A., Permits and Enironmental Requirements for Agauculture in Hawaii (Honolulu: Aquaculture Planning Program, Department of Planning and Economic Development, January, 1980).
3. Chapter 171-13, H.R.S., "Disposition of public lands."
4. Chapter 171-35, H.R.S., "Lease provisions; generally."
5. Chapter 205A, H.R.S., as Amended, "Coastal Zone Management."
6. Public Law 92-582 as Amended (16 U.S.C. 1451 et seq.).
7. Chapter 226-11, H.R.S., "Objectives and policies for the physical environment--land-based, shoreline, and marine resources."
8. Chapter 205, H.R.S., as Amended, "Land Use Commission"; Regulation No. 4, DLNR.
9. Chapter 190, H.R.S.
10. Established pursuant to Section 183-41, H.R.S., as Amended, "Forest and water reserve zones."
11. Roger Evans, Department of Land and Natural Resources, Conservation District Planner, personal interview, June, 1980.
12. Chapter 6E, H.R.S., "Historic Objects and Sites"; National Historic Preservation Act of 1966, as Amended (P.L. 89-665); Presidential Executive Order 11593; "Protection and Enhancement of the Cultural Environment" (May 13, 1977).
13. H.R.S. §199-1 and 2.
14. H.R.S. §199-3.
15. H.R.S. §199-4.
16. H.R.S. §199-7.
17. Chapter 266, H.R.S., "Harbors"; State of Hawaii Department of Transportation; Harbors Division, Rules and Regulations and Tariff No. 4.

18. Clean Water Act of 1977 (33 U.S.C. 1344); Chapter 342, Part III, H.R.S., "Water Pollution."
19. New Rules are published in the Federal Register (Vol. 44[111]: 32854-32956; June 7, 1979).
20. Chapter 328-9 and 321-11, H.R.S., and Hawaii Public Health Regulations, Chapter 4A.
21. Chapter 343, H.R.S., and Environmental Quality Commission, Environmental Impact Statement Regulations.
22. Chapter 150A, H.R.S.; Lacey Act (18 U.S.C. 42); Presidential Executive Order 11987 of May 24, 1977, Relating to Exotic Organisms.
23. Regulation No. 2 of the Division of Plant Industry; Department of Agriculture Policy PI-8, Amended December 2, 1976.
24. Hawaii Coastal Zone Management Program, Chapter 205A, H.R.S., as Amended, along with rules and regulations adopted by the respective Counties.
25. House Bill 1642 of the Tenth Legislature (1979).

SECTION

7

INTRODUCTION TO LEGISLATIVE PROPOSALS

The following pages contain legislative proposals as drafted by the authors. At the outset, the authors would like to point out that these legislative proposals are a method of taking the reader through a complete application and leasing process. The legislative proposals are an exhaustive summary of possible legislative answers to the legal and policy issues and recommendations raised in the text.

However, the legislative proposals are by no means meant to be adopted by any legislature in whole and as stated. Rather, the proposals are meant to be a "shopping list" or "trigger device" to a legislator or legislative drafter.

The authors would also like to point out that the amount of detail in the legislation is not necessarily recommended nor required. Rather, many of the items detailed within the legislation may more appropriately be left to administrative discretion.

Please note that there have been annotations to the various legislative proposals referring to appropriate sections of this report, Hawaii State Constitution, statutes and regulations, and relevant federal statutes. It is hoped that the reader will be able to use the reference material to determine his own position and thinking regarding an appropriate legislative response to the legal and policy issues and recommendations raised in the text.

VII. PROPOSALS FOR LEGISLATION FOR OCEAN LEASING

SECTION 1. FINDINGS AND PURPOSE

The Legislature finds that:

(1) Certain new uses of state marine waters hold great potential for contributing to the energy and protein self-sufficiency goals of the State of Hawaii,

See State-of-the-Art, Technological Assessment, II(A), (B), (C); Public Trust Doctrine, IV(D)(1), p. 19-20, 28.

(2) These new ocean activities will require some degree of exclusive use of portions of the ocean bottom, the vertical water column, and/or the ocean surface within state marine waters, and

See Commercial Development, Property Rights and Security of Tenure, III(B)(C); State-of-the-Art, Technological Assessment, III(A), (B), (C).

(3) These new ocean activities will require defined rights of property and of tenure in state marine waters,

See Commercial Development, Property Rights and Security of Tenure, III(A), (B).

The Legislature declares that it is in the interest of the people of the State to grant leases of ocean water in order to permit such activities in state marine waters. The policy of this State shall be to permit and support such activities to the extent they do not significantly interfere with other ocean uses which also benefit the people of this State. The purpose of this Act is to establish guidelines and procedures for leasing private experimental, educational and commercial ocean activities within state marine waters, and to guarantee property rights and protections for any such activities approved under this Act.

See Public Trust Doctrine V(D)(1); Commercial Development, III.

SECTION 2. DEFINITIONS

- (A) "Administrative Lease" means the applicant proposes to use or a lessee is using a designated portion of state marine waters pursuant to a grant of a lease for those activities designed for profit but from which the lease anticipates gross revenues of no more than \$150,000 in a fiscal year and requires no more than one acre of state marine waters.

See Commercial Development, Security of Tenure, III(B).

- (B) "Board" means the Board of Land and Natural Resources.
- (C) "Chairman" means the Chairman of the Board of Land and Natural Resources.
- (D) "Commercial Lease" means the applicant proposes to use or a lessee is using a designated portion of state marine waters pursuant to a grant by the department of a lease for those activities designed for profit, which include the exchange of or buying and selling of commodities, or the providing of services, or relating to or connected with trade, traffic or commerce in general.

See Commercial Development, Security of Tenure, III(B); Regulation No. 4, DLNR, promulgated pursuant to Chapter 183-41, H.R.S., as amended, Section 1(A)(5), hereinafter referred to as Reg. 4, DLNR, for a similar definition of commercial purpose as relates to the use of the public lands.

- (E) "Department" means the Department of Land and Natural Resources.
- (F) "Experimental Lease" means the applicant proposes to use or a lessee is using a designated portion of state marine waters pursuant to a grant of a lease for those activities designed for research, scientific endeavors, or educational purposes.

See Commercial Development, Security of Tenure, III(B).

- (G) "Lessee" means the holder of a valid lease for the exclusive use of a clearly defined area in state marine waters.

- (H) "Mariculture" means the cultivation and production of animal and plant life within a marine environment.

See Technology Assessments, Mariculture, II(A).

- (I) "OTEC" means an offshore ocean thermal energy conversion facility which is standing or moored in marine waters or moving through such waters and which is designed to use temperature differences in ocean water to produce electricity or other forms of energy and which includes any surface and sub-surface structures, intake and discharge pipes, and underwater power cables integrated with such a facility.

See State-of-the-Art, Technology Assessments, OTEC and OTEC-Related Activities, II(B); OTEC Act of 1980, Public Law 96-320 - August 3, 1980, hereinafter "OTEC Act of 1980," Section 2(11) for a similar definition.

- (J) "Person" means any individual (whether or not a citizen of the U.S.), any corporation, partnership, association, or other entity, organized or existing under the laws of any nation, and any Federal, State, local or foreign government or any entity of any such government.

- (K) "Proprietary Information" means any trade secrets, patents, engineering, technological or other scientific methods, protected by law.

- (L) "State Marine Waters" means all territorial waters of the State including the water column and water surface below the upper reaches of the wash of the waves.

See Reg. 4, DLNR, Section 2(D)(1)(e) for a similar boundary definition.

- (M) "Water Column" means the vertical extent of marine water, including the surface thereof, above a designated area of ocean bottom.

SECTION 3. STATE LICENSING OF PRIVATE USES OF STATE MARINE WATERS

- (A) The Board is hereby granted authority to license mariculture and OTEC operations within state marine waters, including the

ocean bottom, the vertical water column and the water surface pursuant to the approval by the Board of a CDUA to conduct such operations. The Board shall designate licenses as commercial, experimental or administrative, and shall not license state marine waters unless a finding has been made that the proposed activity is in the public interest and consistent with other state policy goals and objectives, including conservation, self-sufficiency and environmental quality.

See Public Trust Doctrine, V(D)(1); Article XI, Section 1, Hawaii Constitution "Conservation and Development of Resources" for requirements of conservation and self-sufficiency; OTEC Act of 1980, Section 101(C)(2) for similar requirement of environmental quality; Article XI, Section 9, Hawaii Constitution, "Environmental Rights" which gives each person the right to a clean and healthful environment; Hawaii State Planning Act, H.R.S. 226-11; "Objectives and policies for the physical environment--land-based, shoreline, and marine resources."

- (B) No person may engage in the operation of mariculture or the ownership, construction, or operation of an OTEC facility which is located in the state marine waters, except as have been approved by the Board and have been established and have been established pursuant to regulations and conditions prescribed by the Board.

SECTION 4. LICENSE APPLICATION AND GUIDELINES FOR LICENSE APPROVAL

- (A) An applicant must submit a written application to the Board to obtain a license to conduct any activity listed in Section 3(A). If the applicant desires to utilize the ocean bottom as well as the state marine waters, the application for use of the ocean bottom shall be made under the provisions contained herein. Such application shall be treated as a Conservation District Use Application (CDUA) and shall be approved or denied by the Board according to the CDUA permit procedure rules and regulations, subject to the following specific requirements:

See The Current Regulatory Framework, DLNR Regulations and Law, VI(B).

1. Applications made pursuant to this Act shall contain:

- (a) A reasonably concise description of the location and extent of the ocean bottom, water column and/or water surface desired to be used, with an attached map or plat of a survey of such. An applicant may request the Department to itself conduct a survey, but must enclose with the application a sum determined by the Department to defray the cost to the public of such a survey.

See Commercial Development, Government Regulation, II(C); OTEC Act of 1980, 102(e)(1).

- (b) A statement by the applicant setting forth alternative locations considered and the reasons for selecting the proposed location over all alternatives.

See Public Trust Doctrine, V(D)(1); Commercial Development, Security of Tenure, III(B).

- (c) A description of the activities to be conducted, including a specification whether such activities are to be experimental, scientific, educational, or commercial.

See Policy Issues, Private/Public Ownership and Development, IV(D)(3); Public Trust Doctrine, V(D)(1).

- (d) A description of the current financial and technical capability of the applicant to carry on such activities.

See Commercial Development, Security of Tenure, III(B).

- (e) An assessment of the environmental impact of such activities, including the impact upon other existing ocean uses in the area.

See Public Trust Doctrine, V(C)(1); H.R.S., Chapter 343, "Environmental Quality Commission and Environmental Impact Statement."

- (f) An assessment of the potential economic rate of return to the applicant and to the State from the conducting of such activities.

See Commercial Development, Government Regulation, III(C).

- (g) Such financial, technical and other information as the Board may determine to be necessary or appropriate to process the application.

See OTEC Act of 1980, Section 101(d)(1), "Issuance Conditions."

- 2. The Board shall not require an applicant to reveal proprietary information concerning the nature or method of his proposed activity or activities.
- 3. The Board shall not approve a Conservation District Use Permit (CDUP) for private use of ocean space unless it finds the applicant is competent to perform the activity or activities for which the CDUP is being sought.

See Commercial Development, Security of Tenure, III(B); Appendix A, Table 1, n.b. Florida provisions.

(B) Guidelines for License Approval; Prerequisites

- 1. The Board shall consider in its evaluation of each application:

See Public Trust Doctrine, V(D)(1); Commercial Development, Government Regulation, III(C); Chapter 343, H.R.S., Environmental Commission and Environmental Impact Statement.

- (a) To what extent the proposed activity shall have a significant adverse effect upon any existing private industry or public activity, or shall interfere with the use of state marine waters for the purposes of navigation, fishing and public recreation.

- (b) Whether the proposed activity shall have an adverse or permanent effect upon the wildlife or ecology of the immediate and surrounding area.
2. The Board shall not approve an application if the proposed activity is shown to be contrary to the public interest, based upon consideration of the overall economic, social and environmental impacts as required by Section 4(B)(1).
See Reg. 4, DLNR, Section 6, "Standards: Land Use Conditions and Guidelines."
3. The Board shall specify in any license granted the extent of the area in which the proposed activity may take place, and such area shall be no more extensive than:
See Public Trust Doctrine, V(C)(2); Appendix A, Tables 1, 2, and 3, n.b., Florida provisions.
- (a) Is required to properly conduct the approved activity; and
- (b) Can be used competently by the applicant for his approved purposes.
4. The Board shall specify in any permit granted the extent of the exclusive use being reserved, and such reservation shall be no more broad than is required to conduct the activity without undue interference.
See Public Trust Doctrine, V(C)(2); Appendix A, Table 1, n.b. Florida provisions.
5. For a proposed mariculture activity, the Board shall specify in any permit granted the species of marine plant(s) and/or animal(s) approved for private culturing and harvesting.
See Commercial Development, Property Rights, III(A).
6. In issuing a license for the construction and operation of a mariculture or OTEC facility, the Board shall prescribe conditions which it deems necessary to carry out the provisions of this Act.

SECTION 5. NOTICE; HEARINGS

- (A) Notice and hearings shall be conducted pursuant to the Conservation District Use Application process.

See Reg. No. 4, DLNR, Section 5, "Notice; Hearings."

SECTION 6. OCEAN RESOURCES LIAISON OFFICER

- (A) An ocean resources liaison officer shall be appointed within the Department whose function shall be:

See Commercial Development, Government Regulation, III(C).

1. To inform prospective applicants of the procedures they will have to follow and of the requirements they will have to meet in order to receive permission to conduct a private ocean activity.
2. To coordinate state and federal permit applications and approval procedures for the conduct of private ocean activities.

SECTION 7. LEASING PROCEDURE

- (A) The Board is hereby authorized to lease state marine waters and the ocean bottom, the vertical water column and the ocean surface for mariculture and OTEC operations pursuant to the approval by the Board of a license to conduct private ocean activities as permitted by Section 3(A).

See Rights Granted to the States by the SLA, V(A)(2).

- (B) Leases may be negotiated between the CDUP holder and the Department and brought to the Board for final approval or they may be assigned by competitive bid, at the discretion of the Board.

See The Current Regulatory Framework, DLNR Regulations and Law, VI(B); See H.R.S. Chapter 171, Part II(B) "Leases or Sales"; H.R.S. Chapter 171, Part III, "Special Dispositions: Sale and Leases Permitted Without Public Auction." Commercial Development, Security of Tenure, III(B).

- (C) Should a lease be assigned by competitive bid and the high bidder not be the holder of the license authorizing the activity or activities for which the lease is being awarded:

See Commercial Development, Government Regulation, III(C).

1. The Board must determine that the high bidder is technically and financially competent to perform the activity or activities for which the CDUP has been approved.
2. If the Board finds technical and financial competence, it shall:
 - (a) Transfer the CDUP to the high bidder.
 - (b) Require as a condition for such transfer that the new CDUP holder indemnify the initial permit holder for all legitimate costs incurred by the initial permit holder pursuant to his successful application for a CDUP.
3. If the Board does not find technical and financial competence, it shall:
 - (a) Reject the high bid and assign the lease to the highest bidder remaining who can establish such competency.
 - (b) Require as a condition for such transfer that the new CDUP holder indemnify the initial permit holder for all legitimate costs incurred by the initial permit holder pursuant to his successful application for a CDUP.

SECTION 8. LEASE PROVISIONS

- (A) Leases approved by the Board under authority of Section 7 of this Act shall be drawn up in accordance with the following requirements, in addition to any others determined desirable by the Board:

1. Term

See Commercial Development, Security of Tenure, III(B); Public Trust Doctrine, V(C)(1); OTEC Act of 1980, Section 101(g), identical terms for OTEC licenses and renewal; Appendix A, Table 1, n.b. Florida provisions.

- (a) The maximum initial term for experimental and administrative leases shall be five years. The maximum initial term for a commercial lease shall be 20 years, with the exception of a lease for an OTEC facility which shall be for a maximum of 25 years.
- (b) Commercial and administrative leases shall be renewable for successive terms of up to ten years; experimental leases shall be renewable of up to one term of up to five years. Before renewing any lease, the Board shall give public notice that it is considering such action, and invite objections to the renewal.
- (c) If significant objections to a lease renewal are presented, the Board shall announce a public hearing to consider the objections.
- (d) If competitive bidding is required upon lease expiration, the leaseholder shall have the right of first refusal and may match the high bid. Should the leaseholder choose not to do so, the Board may reassign the lease, subject to the conditions that the new leaseholder purchase the initial leaseholder's unamortized improvements and assets in the lease area, if the initial leaseholder so demands.

2. Rents and Royalties

See Commercial Development, Financing and Insurance, IV(D).

- (a) Leases shall specify an annual rent of space set by the Board per horizontal acre of leased ocean. The

basic rental charge shall be supplemented, in the case of a commercial activity, by royalty payments, beginning at some set date following the inception of the lease, and based upon either gross productivity or net operating profit.

- (b) All leases shall stipulate payment of annual rental in advance on or before July 1. Failure of the lessee to pay such rent within 30 days of such date shall constitute ground for cancellation of the lease and forfeiture to the State of all works, improvements, and animal and plant life in and upon the leased ocean bottom, vertical water column or ocean surface.

3. Maximum Size of Area to be Leased

See Public Trust Doctrine, V(D)(1); Appendix A, Tables 1, 2, and 3, n.b. Florida provisions.

- (a) The Board shall not lease to any applicant an area of state marine waters larger than the applicant has demonstrated a capacity to efficiently use, and the Board has determined to be consistent with the public interest.
- (b) The Board may reserve a reasonable area of adjacent state marine waters for later lease by a lessee conducting an experimental activity. Successful conduct of experimental activities shall be accepted as a demonstration of capacity to conduct commercial activities within a larger area.

4. Performance Requirements; Bond

See Commercial Development, Security of Tenure, III(B); Appendix A, Table 1, n.b. Florida provisions.

- (a) Failure of the lessee to perform substantially the ocean use activities for which the lease was granted

shall constitute ground for cancellation of the lease and forfeiture to the state of all the works, improvements, and animal and plant life in and upon the leased ocean bottom and water column.

- (b) The Board shall require execution of a bond conditioned upon the active pursuit of the ocean use activities specified in the lease. The amount of the bond so executed shall be appropriate to the size and scale of the activity for which the lease is being granted, and shall be sufficient to protect the public interest in the removal of all structures and plants or animals cultivated within a leased area should the lease be forfeited for non-performance.

5. Assignability

Leases granted by the Board may be assignable in whole or in part if the Board determines that such assignment is in the public interest and that the assignee meets the provisions of this Act and the prerequisites to issuance under Section 4(B).

See Public Trust Doctrine, V(D)(1); H.R.S. 171-36, Lease restrictions; generally"; OTEC Act of 1980, 101(e), "License Transfer."

6. Amendments

A lease granted by the Board may be amended with the approval of the Board if the Board determines that such amendment is in the public interest and that the amendment meets the provisions of this Act and the prerequisites to issuance under Section 4(B).

See Public Trust Doctrine, V(D)(1).

7. Revocation of Lease

- (a) A lease granted by the Board shall be revocable for violation of any lease provision.

- (b) A lease granted by the Board shall be revoked upon a determination by the Board that unacceptable adverse environmental effects are being produced by the private activity or activities being conducted within the leased area.

See Commercial Development, Government Regulation, III(C).

- (c) A lease granted by the Board shall be revoked upon a determination by the State that the public interest requires that the area leased be used for other purposes.

See Public Trust Doctrine, V(D)(1).

- (d) A lessee shall have the right to a public hearing prior to the revocation of his lease.

See Commercial Development, Security of Tenure, III(B).

8. Abandonment of Lease

In the event of abandonment of a leased area by a lessee the Board may order removal or sale at public auction of all improvements, assets, plants, animals, paraphernalia, and equipment in and upon the leased area, and shall transmit to the State General Fund the entire amount received from any public auction and any proceeds received from the lessee's performance bond. Alternatively, the Board may permit use of the improvements, assets, plants, animals, paraphernalia, and equipment for educational purposes or purposes consistent with a benefit to the general public.

See Police Powers of the States, V(B)(1); c.f. OTEC Act of 1980, 101(d)(3), "Disposal or removal requirements."

9. General Rights of Lessee

Leases granted by the Board shall specify that the lessee has the right of exclusive harvest within the leased

area of the marine plant(s) or animal(s) identified in the Conservation District Use Permit held by the lessee.

See Commercial Development, Property Rights, III(A).

10. Property Rights of Lessee

See Commercial Development, Property Rights, III(A).

- (a) Marine plants or animals approved for cultivation by a Conservation District Use Permit held by the lessee, and contained within the leased area, are the private property of the lessee. Any marine plant or animal which escapes from the leased area, however, shall become common property and may be taken or caught by any person without violating the rights of the lessee.
- (b) The lessee shall be responsible for removal of any cultivated marine plants or animals found outside the leased area, if such removal is demanded by the Board. The lessee is solely responsible for all costs of removal of such plants or animals. If action must be taken by the Department to eradicate escaped marine plants or animals, all costs of such eradication shall be borne by the lessee.
- (c) Actions for the recovery of compensation for damage or injury to persons, property, or state waters shall be instituted within two years after the cause of action secured.

See H.R.S. Chapter 657, "Limitations of Actions."

11. Rights of the Public

Leases granted by the Board shall specify that the lessee shall provide reasonable means of public ingress and egress to and from the leased area. The lessee shall, if necessary, construct and maintain gates, openings or lanes at reasonable distance one from another throughout

a leased area which includes surface waters and in which any type of enclosure presents an obstacle to free navigation, unless such public transit, in or through the enclosed waters will cause undue interference with the operation being conducted by the lessee within the leased area.

See Public Trust Doctrine, V(D)(1).

12. Rights of the State of Hawaii

Leases granted by the Board shall specify that:

- (a) The State may require the lessee to surrender the demised state marine waters when such space is required by the State to be put to other public purposes. In this event, the Board shall terminate the lease.

See Public Trust Doctrine, V(D)(1); Commercial Development, Security of Tenure, III(B); Constitutional Powers of the Federal Government, V(C)(1).

- (b) Notwithstanding the provisions of this act or any other provisions of law, if the Chairman finds or has reasonable cause to believe that an activity conducted in or upon a leased ocean area is causing an immediate danger to human or marine life or the environment of the coastal waters of the state, said Chairman shall notify the Board. The Board shall immediately order lessee or lessees affected by such notice to show cause why their activities should not be terminated, and any cultured marine plants or animals or paraphernalia removed from the waters of the state. The Board shall proceed to hold a public hearing and issue its order with respect to such hearing within a reasonable period. In its order following such hearing the Board may direct a temporary or permanent suspension of commercial or experimental activities in the affected

area, removal of equipment or animals, or such other measures as shall be deemed necessary for protection of the marine life and environment of the waters of the state, including forfeiture to and destruction by the state of any plant or animal species.

See Police Powers of the State, V(B)(1); OTEC Act of 1980, Section 108, "Marine Environmental Protection and Safety of Life and Property at Sea."

13. Correction of Violations

The Board shall provide a lessee reasonable opportunity to correct minor violations of the terms and provisions of a Conservation District Use Permit or an ocean area lease granted pursuant to such a permit. Continuing disregard of formal notice of such violations shall be grounds, however, for cancellation of the lessee's permit and/or lease.

See OTEC Act of 1980, Section 111, "Suspension, Revocation, or Termination of License."

14. Public Compensation

The Board shall negotiate with each lessee to mitigate or to offset any significant loss of public resources resulting from the assignment of an ocean lease. A lessee may be required by the Board to provide some positive, direct benefit to the public as a compensation to the public for its loss. Such compensatory conditions placed in a lease shall be directed only toward balancing the loss to the public and shall not be used to provide a direct benefit to the public greater than the public's direct loss.

See Public Trust Doctrine, V(D)(1); Appendix A, Table 1, n.b. Florida provisions.

15. Marking of Leased Areas; Restrictions on Public Use

See Appendix A, Table 1.

- (a) Board may require, where necessary, all lessees to mark off the areas under lease by appropriate ranges monuments, stakes, buoys, or fences, so placed as not to interfere unnecessarily with navigation and other traditional uses of the water surface. All lessees shall cause the area under lease and the names of the lessees to be shown by signs appropriately placed pursuant to regulations of the Board. The Board shall establish rules and regulations which are consistent with federal regulations concerning such markings.

See Appendix A, Table 1.

- (b) All lessees shall give notice to appropriate federal agencies of placement of such markings, and of navigational restrictions resulting from commercial or experimental operations within a leased ocean area.

See The Constitutional Powers of the Federal Government, V(C)(1); Federal Preemption, V(C)(2).

- (c) All limitations upon the use by the public of an ocean area under lease shall be clearly posted by the lessee pursuant to regulations established by the Board. Any person willfully violating posted restrictions shall be guilty of a misdemeanor.

See Commercial Development, Property Rights, III(A).

- (B) The Chairman or his authorized agents shall have the authority to enter and inspect any and all areas subject to a Conservation District Use Permit and leased by the Board for commercial, administrative or experimental uses for the purpose of determining compliance with the terms and provisions of any such permit or lease.

See The Current Regulatory Framework, DLNR Regulations and Law, VI(B); Police Powers of the States, V(B)(1).

SECTION 9. MARICULTURE PARKS

See H.R.S. Chapter 171, Part V, "Lands for Agricultural Purposes; Commercial Development, Security of Tenure, III(B).

- (A) The Board is empowered to develop, on behalf of the State or county in partnership with others, state marine waters as mariculture parks for commercial, administrative, experimental, scientific or educational purposes.
- (B) Mariculture parks shall mean any mariculture operation complex which combines and concentrates in a common location mariculture activities for the purpose of production and distribution economies or experimental, scientific or educational purposes.

SECTION 10. RULES AND REGULATIONS

The Board shall promulgate such rules and regulations as are necessary and appropriate to carry out the purposes and provisions of this Act, in accordance with the provisions of Chapter 91, H.R.S.

SECTION 11. KONOHIKI FISHING RIGHTS

See Konohiki Fisheries/Native Hawaiian Rights, V(C)(2).

- (A) The provisions of this Act do not abridge or alter in any way konohiki fishing rights recognized in H.R.S. 188-4 and 188-5, including the right to sub-lease private konohiki fishing grounds for mariculture activities.
- (B) Any traditional fishing or mariculture activity conducted within konohiki fishing grounds is subject to all applicable state laws and regulations enacted pursuant to the state's police powers over fisheries and navigable waters.

SECTION 12. PENALTIES

See Appendix A, Table 1; Police Powers of the States, V(B)(1).

- (A) Any person who conducts any activities listed in Section 3(A) of this Act in excess of those authorized by lease from the Board, or who conducts such activities in or upon state marine waters without having previously obtained a lease from the Board, shall be guilty of a misdemeanor and subject to imprisonment for not more than one year or a fine of not more than \$1,000, or both. In addition to such fine and imprisonment, all works, improvements, and animal and plant life involved in the activity may be forfeited to the state.
- (B) Any person who continues to conduct any activities listed in Section 3(A) of this Act despite a suspension or revocation by the Board of the license and/or lease authorizing such activities shall be guilty of a misdemeanor and subject to imprisonment for not more than two years or a fine of not more than \$500 per day, or both. In addition to such fine and imprisonment, all works, improvements, and animal and plant life involved in the activity may be forfeited to the state.
- (C) Any person who willfully damages, disturbs or interferes with any activity listed in Section 3(A) of this Act and which has been licensed by the Board through this Act, or who damages, disturbs, interferes, takes by any means whatsoever, or possesses any cultivated species in an area leased to a private person or corporation, without the permission of that person or corporation, shall be guilty of a misdemeanor and subject to imprisonment for not more than one year or a fine of not more than \$1000, or both. In addition to such fine and imprisonment, all vessels, dredges, tongs, rakes or other implements used to damage, disturb, interfere or take such species in such leased areas may be forfeited to the state.

SECTION 13. ENFORCEMENT

Enforcement shall be in accordance with Chapter 199, H.R.S.

See The Current Regulatory Framework, VI(B)(4); Commercial Development, Property Rights, IV(B).

SECTION 14. AQUACULTURE LOAN PROGRAM

Section 219-2(1) of the Hawaii Revised Statutes is hereby amended to read: "'Aquaculture' means the production of aquatic plant and animal life for food and fiber within the ponds and other bodies of water that are within the real property for which real property taxes are assessed and paid by the owner or producer, or within state marine waters for which rents and product royalties are to be paid by the lessee."

See Commercial Development, Financial and Insurance, III(D).

SECTION 15. MARICULTURE INSURANCE PROGRAM

A Mariculture Insurance Program shall be established within the Department of Agriculture and administered by the Board of Agriculture.

1. The Department of Agriculture shall negotiate with appropriate private insurance companies to provide a comprehensive insurance plan for mariculturists, and shall grant such subsidies to mariculturists as it deems appropriate to reduce the financial impact of premiums paid by mariculturists for such insurance.

See Commercial Development, Financial and Insurance, III(D).

2. The sum of \$_____ is hereby appropriated to the Department of Agriculture to implement this program.

SECTION 16. DESIGNATION OF ZONES SUITABLE FOR PRIVATE, TRADITIONAL, RECREATIONAL, PRESERVATION, OR OTHER USES

- (A) The Department of Land and Natural Resources shall prepare a site assessment recommending areas within state marine waters which may be designated as zones suitable for private, traditional, recreational, preservation, or other uses.

See Public Trust Doctrine, V(D)(1), Konohiki Fisheries/Native Hawaiian Rights, V(D)(2).

- (B) The sum of \$_____ is hereby appropriated for the Department's use in implementing this site assessment.
- (C) The Board in evaluating each application for private use of state marine waters shall consider but shall not necessarily be bound by the findings as contained in said site assessment.
c.f. Appendix A, Table 1, n.b. Florida provisions.
- (D) Until said site assessment has been completed by the Department, the Board shall evaluate applications for private ocean uses on the basis of available data and informed testimony.
- (E) The Department shall update said site assessment at least every ten years.

See Public Trust Doctrine, V(D)(1).

SECTION 17. COMPATIBILITY WITH OTHER STATE LAWS

See The Current Regulatory Framework, VI.

- (A) All commercial, administrative and experimental ocean leases approved by the Board pursuant to this act shall be conducted in a manner compatible with other existing state laws.
- (B) All cultivation of marine plants and animals approved by the Board pursuant to this act shall be subject to existing state sanitation laws and state laws applying to infected or diseased animals and plants.

SECTION 18. SEVERABILITY

If any provision of this act or any rule, regulation or determination made thereunder, or the application thereof to any person, agency, or circumstances, is held invalid by a court of competent jurisdiction, the remainder of this act, rule, regulation, or determination and the application of such provisions to other persons, agencies, or circumstances shall not be affected thereby. The invalidity of any section or sections or parts of any section or sections of this act shall not affect the validity of the remainder of this act.

SECTION 19. This act shall take effect upon passage.

APPENDIX

A

APPENDIX A

INTRODUCTION TO TABLES 1, 2, AND 3

Table 1 outlines, examines, and compares the various provisions of the mariculture laws of California, Maine, Florida, and Rhode Island. The laws of these particular states are noted for comparison purposes. Tables 2 and 3 list the leasing, licensing, and permit requirements which regulate shellfish, fisheries, and aquaculture activities in the other coastal states. These provisions are outlined here so that a nationwide view and comparison can be made of them.

The tables may also help to point out the interplay between the leasing provisions and the licensing and permit requirements of the states. Mariculture projects may necessitate the exclusive possession and use of submerged lands, the water column, and water surface. As such, leasing of the needed area may be required for the project. Uses of the leased land, however, will still be subject to governmental regulation. In these States as noted herein, several permits or licenses may be required in order to obtain permission to carry out various facets of a mariculture operation.

TABLE 1. THE MARICULTURE LAWS OF CALIFORNIA, MAINE, FLORIDA, AND RHODE ISLAND

	<u>California</u>	<u>Maine</u>	<u>Florida</u>	<u>Rhode Island</u>
Eligibility Requirements	Leases restricted to citizens of the state and to corporations organized under California laws. Cal. Fish and Game Code §6488.	None	None	None
Type of Area that may be Leased	Exclusive privilege of cultivating marine life on state marine waters or water bottoms may be granted. §6488.	Area in, on and under the coastal waters including the public lands beneath those waters and portions of the intertidal zone. Marine Rev. Statutes §6072(1).	Leases of submerged lands include exclusive use of the water column above the leased area to the extent required by the aquaculture activity. Flor. Rev. Statutes §253.68.	Land submerged under the coastal waters of the state including any coastal ponds or estuaries to coastal rivers, and the water column above such submerged lands. Gen. Laws of Rhode Island, 20-10-6.
Restrictions on Leasing Certain Areas	Prohibitions on Leasing: (1) Clam digging areas §6496. (2) Native oyster beds §6512 (3) Certain state-owned lands in Humboldt Bay §6503 (4) Areas that have been set aside as reserves for state cultivation of marine life. §6483.	The Commissioner of Maine Resources grants leases with the advice and consent of an advisory council. The commissioner must be sure that the lease will not unreasonably interfere with the ingress and egress of riparian owners, navigation, fishing or other uses of the area and is not in conflict with the Maine Coastal Plan or other applicable coastal zoning ordinance. §6072(7)	Dept. of Natural Resources designates areas for which it recommends reservation for nonaquacultural uses. §253.75(2)(c).	No specific restrictions. Coastal Resources Management Council (CRMC) along with Marine Fisheries Council and the Director of the Dept. of Environmental Management reviews all lease applications and decides on its approval. 20-10-5.

CaliforniaMaineFloridaRhode Island

Rents

By competitive bidding system, but not to be less than ten dollars (\$10) per acre for each fiscal year. §6492

The commissioner after consulting with the Director of the Bureau of Public Lands shall determine the rent which shall be paid under each lease. The established rent should represent a fair value based upon the leased areas use. §6072(9)

Rent left up the discretion of the administering agency. §253.71(2)

To be determined by CRMC. 00-10-7

Lease
Applications

Must designate the the particular area desired. The application should be accompanied by a map of the area desired, showing sufficient adjacent geography ready for placement, and the acreage of the area. A fee of \$50.00 is assessed. §6488

All applications shall:

- (1) Describe the location of the proposed lease tract.
- (2) Identify the species to be cultivated.
- (3) Describe the impact of the project on existing or potential uses of the area.
- (4) Describe the degree of exclusive use required by the project.
- (5) Include written permission of every riparian owner whose land to the low water

Written applications must include:

- (1) Concise description of the location and amount of submerged land desired and either:
 - a. Map or plot of a survey of such
 - b. Payment to defray the cost of such a survey.
- (2) Description of the activities to be conducted, including a specification whether such activities are to be experimental or commercial and an assessment of the current capability of the applicant to

Application must include:

- (1) Description of the location and amount of submerged land and water column to be subject to permit.
- (2) Description of aquaculture activities.
- (3) Assessment of the current capability of the applicant to carry out such activities.
- (4) Offer information as the CRMC may by regulation require.

	<u>California</u>	<u>Maine</u>	<u>Florida</u>	<u>Rhode Island</u>
Size of Area to be Leased	No size restriction. Administering agency has discretion in determining the size of the lease so long as lease is in the public interest. §6487	Size of tract is limited to a maximum of 5 acres, but any person may accumulate tracts of up to 200 acres. §6072(2)	Lease of areas only large enough to be efficiently used by lessee. §253.71(3)	No size restrictions.
Duration of Lease/Renewal	Leases may be granted for up to 25 years. Leases may be renewed after 20 years with the lessee having a prior right to meet the best bid and obtain a renewal of his lease. §6490	Leases may be granted for up to 10 years. §6072(2) Renewals may be granted unless the prior lessee has not complied with the lease agreement, substantially no research or aquaculture has been conducted or the commissioner finds that it is not in the best interest of the state to renew the lease. §6072(12)	Maximum initial term shall be 10 years. Leases shall be renewable for successive terms up to the same maximum upon agreement of the parties. §258.71(1)	Not to initially exceed 10 years. Leases shall be renewable upon application by the permittee for successive periods up to 5 years for each renewable period. 20-10-3
Preference in Granting Leases	Lease award goes to the highest bidder, as long as bid is above the minimum established by the administering agency. §6492	Preference goes to those with preexisting interests in the area to be leased. §6072(8)	An important factor would be the current capability of the applicant to carry on the proposed aquaculture activity. §253.69(3)	Current capability of of applicant to carry on aquaculture activity is important. 20-10-4(3)(d)

CaliforniaMaineFloridaRhode Island

mark will actually be used.

carry on such activities.

(6) Include a map of the lease area and its adjoining waters and shorelands, with the names and addresses of the known riparian owners. §6072(4)

(3) Other information as the board or trustees may by regulation require. §253.69

Revocation
of Lease

Inactivity, failure to pay fees or taxes, or failure to properly utilize the the leashold. §6493

No research or aquaculture has been conducted within the preceding year, or if it has been conducted so as to be substantially injurious to marine organisms, or if any other lease condition has been violated. §6072(11)

Failure to perform substantially the aquacultural activities for which the lease was granted. §253.71(A)

Failure to comply with the terms and conditions of the aquaculture permit or renewal, the provisions, rules, regulations of Chapt. 20 shall be grounds for termination of the lease at the discretion of the CRMC. 20-10-6(c)

Hearings

None provided for.

The commissioner, after reviewing the lease application shall hold a hearing if he is satisfied that the application is complete and that there is the possibility that the lease could be granted. §6072(5&6)

If written objections are filed then a public hearing shall be held in the county from which the application was received. §253.70(3)

Approval by CRMC shall be subject to public hearings consistent with Rhode Island Gen. Laws Chapt. 42-35. 20-10-5(e)

	<u>California</u>	<u>Maine</u>	<u>Florida</u>	<u>Rhode Island</u>
Enforcement of Leaseholder's Rights	Anyone who take marine life from a leased area or willfully destroys the marine life or markers on the leased property can be imprisoned up to 6 months, fined up to \$500, or both. \$6500	Anyone interfering with a lessee's interest may be fined \$100 to \$500 or imprisoned for 90 days. 12 Maine Per. Stat. §3731	Any person willfully violating posted restrictions shall be guilty of trespass and shall be punished by imprisonment for not more than 60 days or or by fine not exceeding \$500, or both. §253.72(2)	Any person who shall disturb an area subject to an aquaculture permit, or take or possess the species of marine organism being cultivated in an area subject to an aquaculture permit, without the permission of the permittee, shall be guilty of a misdemeanor and subject to imprisonment for not more than one year or a fine not more than \$500 or both.
Application of Existing Fishery Laws to Aquaculture Activity	Mariculturists need not obtain packing and processing licenses. §6482	Existing fishery laws will apply to aquaculturists unless they request and obtain a variance from the commissioner. 12 Maine Rev. Stat. §6074	Determination of the applicability of existing fishery laws to the particular mariculture activity requires a review of the salt water fishing law regarding the species involved.	The CRMC may adopt, repeal, and amend such rules and regulations as are necessary and appropriate to carry out provisions of the Aquaculture Chapter (2). 20-10-11
Degree of Exclusive Use of the Area Leased	Lessee may only cultivate and harvest "non-native marine life" in the culture area. The lessee is	Each lease shall be exclusive for the species and to the extent provided by commissioner in the	Except to the extent necessary to permit the effective development of the species of animal or plant being	Same as Florida. 20-10-9(b)

	<u>California</u>	<u>Maine</u>	<u>Florida</u>	<u>Rhode Island</u>
	entitled to the exclusive privilege of cultivating, maintaining, and harvesting non-native marine life in the culture area. The commission may allow, however, the cultivation and harvest of native marine life in the mariculture area if it determines that this would be in the best public interest. §6484	lease. §6073(1)	cultivated, the public shall have means of reasonable ingress and egress to and from the leased area for traditional water activities such as boating, swimming and fishing. §253.72(2)	
Interference with Navigation	Leased area must be marked so as not to pose a navigational hazard. §6499	Leased area must be marked in a manner prescribed by the commissioner. §6072(10)	All lessees are to mark the area under lease so as not to interfere unnecessarily with navigational uses of the surface. §253.72(1)	Same as Florida. 20-10-9(a)
Protection of Marine Species	The administrative agency may prohibit placing marine life if it considers injurious to the development of the mariculture industry in coastal waters. §6486	Lease may be revoked if cultivation has been injurious to marine species in the area. §6072(11)	Aquaculture lease guidelines require that the proposed use of the leased lands, have no permanent effect on the wildlife or ecology of the area Aquaculture Lease Guidelines §2. Protection is also afforded by laws and re-	The director of environmental management shall determine whether the aquaculture activities proposed in any application are: (1) not likely to cause an adverse effect on the marine life adjacent to the area

California

Maine

Florida

Rhode Island

gulations administered
by the Div. of Marine
Resources within the
Florida Dept. of Na-
tural Resources.
Fla. Rev. Stat.
§370.01 et seq.

subject to permit and
the waters of the
state, (2) not likely
to have an adverse
effect on the con-
tinued vitality of
indigenous fisheries
of the state.
20-10-5(c)

TABLE 2. COASTAL STATES PROVISIONS FOR THE LEASING OF TIDE AND SUBMERGED LANDS
(For Shellfish, Fisheries, Aquaculture)

<u>State</u>	<u>Purpose</u>	<u>Restrictions-Qualifications</u>	<u>Authority</u>
Alaska	Shore fisheries development mainly salmon set gill netting and anchoring of oyster culture rafts.	All unappropriated state tide, submerged and shore lands wherein set net fishing is allowed by the Dept. of Fish and Game shall be available for leasing if classified as open to leasing by the Director, Div. Lands, Dept. of Natural Resources.	As 38.05.082 Regs under 11 AAC 64.050 (Set Net Leasing Regulations) Correspondence with Richard A. Lefebvre, Chief Land Management Section.
California	Refer to table on "The Mariculture Laws of California, Maine, Florida, and Rhode Island."		
Delaware	Protecting, planting, harvesting shellfish. Also special provisions for scientific leases.	Dept. of Natural Resources & Environmental Control is authorized to lease, in the name of the state, tracts or parcels of shellfish grounds beneath the waters of this state.	7 Del. C. §1905
Florida	To conduct commercial or experimental aquaculture activities.	Subject to board of trustees approval of lease application.	Ch. 253, Sections 253.67 and 253.77.
	<u>Note:</u> Florida grants exclusive use of the bottom and the water column to the extent required by such aquaculture activities.		
Georgia	Oyster beds, clam beds, or both.	Dept. of Natural Resources may lease any state-owned oyster or clam beds.	Ga. Code §45-920.
Louisiana	None specified.	Director may lease any water bottoms and natural reefs in the waters of this state.	Louisiana Revised Statutes 56:§424.

<u>State</u>	<u>Purpose</u>	<u>Restrictions-Qualifications</u>	<u>Authority</u>
Maine	Scientific research or for aquaculture of marine organisms.	Subject to approval of Commissioner. Commissioner may lease areas in, on and under the coastal waters including the public lands beneath those waters and portions of the intertidal zone.	Chapt. 605, subchapt. II, §6072 (Research and Aquaculture Leases).
Maryland	Protection, sowing, bedding or cultivating oysters or other shellfish.	Dept. of Natural Resources may lease tracts of land beneath state waters to state residents. Corporations or joint stock companies may not lease submerged lands for oyster cultivation.	§4-1108 Natural Resources Article, Annotated Code of Maryland. Correspondence with Charles M. Frisbie, Deputy Director of Tidal Fisheries
Massachusetts	Growing shellfish by means of racks, rafts, or floats in waters.	Selectmen or Mayor may grant an aquaculture license for waters of the commonwealth below the line of extreme low water. Said licensee shall have the right to the exclusive use of the lands and waters for purposes of growing shellfish within 100 feet of said racks, rafts, or floats.	Chapt. 931, :9, §68A. Aquaculture Licenses.
Michigan	No lease provisions.		
Minnesota	No lease provisions.		
Mississippi	Oysters	Mississippi Marine Conservation Commission has authority to lease the bottoms within its jurisdiction.	Mississippi Code §49-15-27.

<u>State</u>	<u>Purpose</u>	<u>Restrictions-Qualifications</u>	<u>Authority</u>
New Hampshire	No lease provisions.		
New Jersey	Planting and cultivating of shellfish.	Leases for the lands of the state under the tidal waters subject to approval by Council and Commissioner. No lease shall be granted to anyone who was not a citizen and actual resident of the state for the previous 12 months.	Ch. 199 Marine Fisheries Management and Commercial Fisheries Act. C.23:2B-1.
New York	Shellfish cultivation.	The Dept. of Environmental Conservation may lease state owned lands underwater for the cultivation of shellfish, except such lands within 500 feet of high water mark. Lands underwater shall not be leased where there is an indicated presence of shellfish in sufficient quantity and quality and so located as to support significant hand raking and/or tonging harvesting. Underwater lands where bay scallops are produced regularly on a commercial basis shall not be leased for shellfish cultivation.	Environmental Conservation Law (ECL) §13-0301.

Note: From personal correspondence with Stephen A. Hendrickson, NY State Dept. of Environmental Conservation, Division of Marine Resources, Shellfish Management - There is presently no legal mechanism for the assignment of underwater lands or water column areas for mariculture activities involving marine species other than shellfish. Because of conflicting user interest and adverse public opinion, for all intents and purposes, there have been no leases issued in New York State during the past 50 years. Refer also to ECL §13-0316.

<u>State</u>	<u>Purpose</u>	<u>Restrictions-Qualifications</u>	<u>Authority</u>
New York (Continued)	Off-bottom culture of shellfish.	The dept., in its discretion may issue permits for off-bottom culture of shellfish. A permit entitles the holder to purchase and possess, from within or without the state, shellfish of less than legal size for purposes of off-bottom culture only.	ECL §13-0316
North Carolina	Commercial cultivation of oysters and clams.	Marine Fisheries Commission may lease to residents of N.C. any of the public bottoms underlying coastal fishing waters which do not contain a natural oyster or clam bed, in accordance with the provision of G.S. 113-202.	Title 15, Chapt. 3, subchapter §.0301.
Oregon	Oyster plots.	The commission may grant to the applicant an area applied for if the area is known to be available and if the commission has classified the area as suitable for oyster cultivation.	ORS 509.431(3). Applications for new oyster plots.
Puerto Rico	Cultivation of fishes or plants.	The Corporation for the Development and Administration of Marine, Lacustrine, and Fluvial Resources of Puerto Rico may lease to any citizen or domestic corporation of Puerto Rico areas of and in, any body of water in which the exclusive privilege of cultivating	Act Number 82, Section 11, Aquaculture (e).

<u>State</u>	<u>Purpose</u>	<u>Restrictions-Qualifications</u>	<u>Authority</u>
Puerto Rico (Continued)		fishes or plants may be executed. Such areas shall be used in accordance with the use established by the corporation. No lands or bodies of water shall be leased, unless the corporation determines that said lease would be in the public interest.	
Rhode Island	Conducting aquaculture.	Rhode Island Coastal Resources Management Council may issue permits and leases for conducting aquaculture within the territorial waters of Rhode Island. The CRMC is authorized and empowered to lease the land submerged under the coastal waters of the state, including any coastal ponds or estuaries to coastal rivers, and the water column above such submerged lands.	Correspondence with John N. Cronan, Chief, Div. Fish and Wildlife. Chapt. 219, 20-10-6 Leases. Chapt. 219, 20-10-6 Leases.
South Carolina	Shellfish culture for commercial purposes.	South Carolina Wildlife and Marine Resources Commission may lease to any state resident portions of the bottoms owned or controlled by the state.	Code of Laws of South Carolina §50-17-530.
Texas	<u>Note:</u> By law (§48.001 and 51.001), mariculture or aquaculture activities must be carried out in private ponds and reservoirs in the state - not in public waters.		Correspondence with Robert J. Kemp, Director of Fisheries.

<u>State</u>	<u>Purpose</u>	<u>Restrictions-Qualifications</u>	<u>Authority</u>
Virgin Islands	No lease provisions.		
Virginia	Shellfish propagation.	All individuals desiring to acquire bottoms for propagation of shellfish must apply to the Virginia Marine Resources Commission.	\$28.1-108 and \$28.1-109. Correspondence with Russel A. Short, Fisheries Management Plans Coordinator.
Washington	Cultivation of food fish and shellfish or other aquatic animals for commercial purposes (also known as fish farming or aquaculture).	Cultivation may be permitted on privately owned uplands, tidelands, shorelands, or beds of navigable waters in accordance with procedures established for administration of such areas.	RCW 75.16.100.

TABLE 3. COASTAL STATES LICENSES AND PERMITS FOR THE
REGULATION OF SHELLFISH, FISHERIES, AND AQUACULTURE

<u>State</u>	<u>Purpose</u>	<u>Provisions-Restrictions</u>	<u>Authority</u>
Alaska	Improvements (permit)	When tidelands are not under the director of the Div. of Lands, Dept. of Natural Resources may issue permits for improvements to be placed or constructed upon State-owned tide or contiguous submerged lands. (permit for oyster raft anchorage)	AAC 62.730, AS 38.05.020, AS 38.05.320, and AS 38.05.330.
California	Cultivating Marine Life	A mariculture license or an oyster cultivation license is required by every person cultivating marine life in any waters and other areas of the state, whether public or private.	\$6480
Delaware	Fish-Cultural Operations and Investigations by U.S. Commissioner of Fisheries	The U.S. Commissioner of Fisheries and his duly authorized agents may conduct fish-cultural operations and investigations connected therewith within the waters of Delaware, in such manner and at such times as are considered necessary and proper by the Commissioner or his agents.	7§572
Florida	Refer to table on "The Mariculture Laws of California, Maine, Florida, and Rhode Island."		

<u>State</u>	<u>Purpose</u>	<u>Provisions-Restrictions</u>	<u>Authority</u>
Georgia	Oyster collector's permit, taking oysters for personal use.	Permit for collecting oysters. (Restricted from polluted areas, areas not on master chart.)	Sa. Code §45-321.
Louisiana	Raising domesticated fish for commercial markets.	Fin fish farmers are prohibited from using public bodies of water to raise fish. Thus ponds or reservoirs for fish farming must be constructed on private land.	La. R.S. 56:412(1) and (2). La. R.S. 56:412(5)
Maine	Refer to table on "The Mariculture Laws of California, Maine, Florida, and Rhode Island."		
Maryland	Dredging license for oysters.	Any lessee desiring to catch oysters from any leased oyster bottom, (except in Worcester County) by dredge or handscrape shall apply annually to the Dept. for a special license.	§4-1116(b)
	Oyster taking by non-resident in Somerset County.	A lessee may authorize a non-resident to take oysters by tong in Somerset County.	§4-1116(d)
Massachusetts	Plant, grow and take shellfish.	License good for planting, growing and taking shellfish and to plant cultch for the purpose of catching shellfish in, upon, or from a specific portion of flats or land under coastal waters.	§57

<u>State</u>	<u>Purpose</u>	<u>Provisions-Restrictions</u>	<u>Authority</u>
Massachusetts (Continued)	Aquaculture license to grow shellfish.	Aquaculture license to grow shellfish by means of racks, rafts or flats in waters of the Commonwealth below the line of extreme low water.	\$68A
Mississippi	Vessels used to catch, carry, take or transport oysters.	Each vessel used to catch, carry, take or transport oysters in any of the waters within the territorial jurisdiction of the State of Mississippi must be licensed.	\$49-15-29(a)
	Carrying oysters.	It shall be unlawful for any person to carry or ship raw oysters without paying an annual privilege tax and receiving a license.	\$49-15-29(c)
New Jersey	Oyster culture.	The Commissioner may issue such permission after due inspection and examination of the nature, species, quantity, source, location of proposed planting or lodging and the condition of the oysters and after his determination that the same will not be detrimental to the native oysters or to the oyster industry of this state.	25.Rs. 50:1-35
New York	Shipping and processing of shellfish.	Prior to the processing, transportation or shipment of shellfish either in intra-state or inter-state commerce an appropriate permit so to do shall be obtained from the department.	\$13-0315

<u>State</u>	<u>Purpose</u>	<u>Provisions-Restrictions</u>	<u>Authority</u>
New York (Continued)	Off-bottom culture of shellfish - marine hatcheries	The dept., in its discretion may issue permits for operation of marine hatcheries. A marine hatchery permit entitles the holder to possess, raise and breed shellfish, lobster, crab, shrimp and food fish and the young thereof. An off-bottom culture of shellfish permit entitles the holder to purchase and possess from within or without the state, shellfish of less than legal size for the purpose of off-bottom culture only.	\$13-0316
North Carolina	Taking oyster for planting	No person shall take oysters from the public grounds of the state for the purpose of planting the same on private beds except as authorized by 6.S. 113-158 and 113-203 and Reg. 15 NCAC 3B.1107.	3c.0206
	Taking oysters for private gardens.	No person shall take oysters from private beds during the closed season unless such person shall have first secured from the secretary a permit to take oysters from private gardens during closed season as provided in 15 NCAC 3B.1106.	3C.0207

<u>State</u>	<u>Purpose</u>	<u>Provisions-Restrictions</u>	<u>Authority</u>
Oregon	Cultivation fees and use taxes.	Persons using state lands for cultivating oysters shall pay annual cultivation fees and use taxes. Use taxes shall be in the amount of \$0.05 per gallon of oysters or \$0.05 per bushel.	\$509.441
	Oyster import permit	Any person before importing into this state any oysters for the purpose of planting shall first apply in writing to the State Fisheries Director for a permit to import oysters.	635-05-140
	Salmon hatchery	Permit allows the release and recapture of Chum, coho and chinook salmon.	ORS 508.700-508.745 and OAR 625-30-100-625-30-130.
Puerto Rico	Cultivating fishes or plants	Any person engaged in the business of cultivating fishes or plants, whether they be planted, their growth stimulated, or harvested; in, over or from waters and public or private areas in Puerto Rico, shall have a license to such effects.	Act No. 82 §Na
Rhode Island	Refer to table on "The Mariculture Laws of California, Maine, Florida, and Rhode Island."		
South Carolina	Floating equipment for taking shellfish.	Div. of Commercial Fisheries shall license floating equipment used to take shellfish.	\$50-17-350

<u>State</u>	<u>Purpose</u>	<u>Provisions-Restrictions</u>	<u>Authority</u>
Texas	Fish farming.	No person may be a fish farmer without first having acquired from the Dept. a fish farmer's license.	\$48.002
	Fish farm vehicles.	A vehicle used to transport fish from a fish farm for sale from the vehicle that is not owned and operated by the fish farm license holder is required to have a fish farm vehicle license.	\$48.003
Virgin Islands	General Business	Every person or association wishing to engage in any business, occupation, profession or trade shall apply and obtain a license from the Director of Consumer Affairs.	Chapt. 9§301.
Virginia	Carrying oysters out of state.	A permit is required before any oysters from the natural rocks, beds or shoals in the waters of this commonwealth may be carried out of state.	Code of Virginia §28.1-96.
	Buying or carrying seed oysters from certain grounds.	It shall be unlawful for any person to buy or carry oysters to be placed in this State; whose shells measure less than 3 inches without first having obtained a permit.	\$28.1-97

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<u>State</u>	<u>Purpose</u>	<u>Provisions-Restrictions</u>	<u>Authority</u>
Washington	Aquaculture	A permit is required from the Director of Fisheries for the culture of food fish, shellfish, or other aquatic animals by private interest for commercial purposes. (A separate permit is required for each fish farm site.)	Chapt. 35 WAC 220.76.010
	Salmon Aquaculture	Any salmon aquaculture operation requires possession of a permit and valid annual license as provided in the Dept. of Fisheries code.	RCW 65.16.100

APPENDIX

B

APPENDIX B

The following section contains the views and comments of certain members of the Advisory Committee concerning this report.

The following committee members submitting letters are:

Dr. John P. Craven
Dean, University of Hawaii Marine Programs
State Marine Affairs Coordinator

Kenji Ego
Director, Fish and Game Division
Department of Land and Natural Resources

Roger Evans
Conservation District Planner
Department of Land and Natural Resources

Kent Keith
Coordinator, Office of the Director
Department of Planning and Economic Development

Kenneth R. Kupchak
Attorney at Law

George Lindsey
Attorney at Law

Dr. James E. Maragos
Chief, Environmental Resources Section
U.S. Army Corps of Engineers

James McCormick
Deputy Director, Department of Transportation

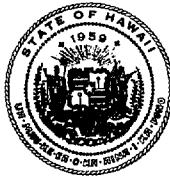
Frank McHale
Project Manager-OTEC
Hawaiian Dredging and Construction Company

Richard G. Poirier
Chief, Long Range Plans Branch
Planning Division
Department of Planning and Economic Development

Taylor Pryor
President, Systemculture, Inc.

Guy Rothwell
Senior Engineer, Oceanic Institute

Justin Rutka
Fisheries Advisor



STATE OF HAWAII
MARINE AFFAIRS COORDINATOR
OFFICE OF THE GOVERNOR
P. O. BOX 2840
HONOLULU, HAWAII 96803

November 17, 1980

MEMORANDUM

TO: STANTON AND CLAY
Attorneys at Law

FROM: JOHN P. CRAVEN *JPC*
Marine Affairs Coordinator

SUBJECT: OCEAN MARICULTURE STUDY

This study is an important and timely threshold in Hawaii's evolution towards a fuller utilization of the ocean's resources. It will be read and digested again and again as leaders, decision makers, entrepreneurs, and the general public chart Hawaii's tenuous transition from a land based to an ocean oriented society.

Because of its seminal role in our attitudes and policies towards ocean development, such a study must be scrutinized with great care. Its wisdom and accuracy will lead us to success, but similarly its omissions and errors will frustrate our best efforts.

It is basically a useful study, but there are several areas that demand attention. They include an excessively narrow definition of mariculture; an overemphasis on ocean leasing as opposed to ocean use; an underemphasis on the unique legal and cultural traditions that have governed Hawaii's relationship with the sea; an unresolved tension between small-scale operations in near shore waters and large-scale open ocean enterprises; an underemphasis on the problems of enforcement; and a slight timidity in offering legislative alternatives.

The first and foremost concern is highly significant. For some incomprehensible reason, "mariculture" is defined so narrowly as to exclude the most dramatic, immediate, and practical boost to Hawaii's economy: the fish aggregation buoys. Any efforts that improve the cultivation or nutrition of marine organisms should be considered mariculture. Those fish which are attracted to an aggregation device, and which would not normally be found near such a habitat, should be considered "under cultivation." Today fishermen are catching upwards of 1000 lbs of fish per day near these tremendously

successful devices. They have indicated individual and collective interest in providing some of the investment costs. Our study must explore ways to encourage their investments. The strained arguments that our Constitutional reference to "fisheries" does not involve mariculture, or that mariculture does not include the artificial attraction of fish to a new habitat or area, are without basis. Fish aggregation devices, far from being excluded from this study, should have been prominently featured. They are here-and-now practical use of the ocean and should be one of our first concerns.

A second constraint artificially established by the study is its total reliance upon ocean leasing as the context for ocean mariculture and development. While some forms of ocean activity appear to fit neatly into the ocean leasing scheme, a broader examination of the technology will reveal that the key factor is not exclusive rights to the ocean floor, but rather exclusive use of the ocean resources. The report apparently failed to consider the possibility of mobile ocean mariculture technologies, such as moveable or "grazing" fish aggregation devices, moving cage culture arrangements, and even grazing OTEC plants. In fact, one of the most important features of ocean energy and food producing technology is the ability to transport it easily from site to site. It may be that due to environmental or biological factors the relocation of such devices during stages of life cycles, or during different times of the year would be desirable. This could be an important factor in the non-interference or enhancement of certain marine life during critical phases of their development. In the early years of technological experimentation, it would be wise to permit the experimentation of technology at various sites in order to gather relevant data for proper management. To constrain the entire development of ocean food and energy production by demanding a fixed location via a lease could reduce the economic, social, environmental and regulatory advantages we all seek. I would strongly recommend that ocean leasing be viewed as only one approach, and that further exploration of alternatives be seriously considered.

A third area of concern is the general tone and scope of the study. While a thorough review of ocean leasing and other aspects of mariculture in the context of U.S. caselaw and mainland experience is helpful, it should not be the primary emphasis. The very impetus of this study was the understanding that Hawaii's cultural and legal (i.e. Constitutional) traditions are unique and perhaps more restrictive than that of other states. Exclusive use of the ocean for mariculture was specifically added to the State Constitution because of the recognition of our publically oriented traditions. Similarly, the extension of mariculture privileges beyond to OTEC and other non-mariculture development must be viewed carefully within this context. If we are to develop a public understanding and support for a fuller utilization of our ocean resources, it is incumbent upon such a study to meet those concerns head-on. Throughout our review of the earlier drafts it has been apparent that the Hawaii Constitutional restrictions were seen as insignificant, if not irrelevant. Whether or not this judgement is accurate, it is unacceptable to dismiss legitimate concerns over public rights of access. The public use of

the "fisheries" versus the development of exclusive uses must be addressed directly, not sidestepped. I personally believe that these opposing public benefits can be satisfactorily reconciled. But in order to accomplish this, the study must fully indicate an appreciation of the dilemma.

Fourth, and perhaps related to the ultimate acceptance or rejection of ocean exclusive use, is the unresolved tension between a legal regime for large scale operations and small scale operators. We need to accommodate both, as well as address the particular challenges that both present to the community. Of particular concern are the legal strategies for near shore waters, where conflicts over recreational and other uses will be intense, and off-shore developments, where conflicts would be less important. The State's attitude in promoting and assisting mariculture cooperatives, primarily for the small entrepreneurs, could play a key role in the immediate future of mariculture in Hawaii. The proposed legislation in later drafts of the study does make provisions for small operations and research and development, and this is welcome. But it appears that the main thrust of the study is concerned with the large scale developers. Near shore coastal conflicts and strategies for encouraging cooperatives remain essentially unexplored features of the reports recommendations.

A fifth item is the underemphasis on the practical problems of enforcement. No legal regime will be worth considering if the enforcement is impractical or beyond the State's resources. This dilemma is tied intimately to the technologies under consideration. I would have hoped that the sections on technology would have included discussion of alternative methods of enforcement appropriate for each.

Related to enforcement is the limited scope of the legislative recommendations. Rather than a singular approach, a greater variety of "guidelines," from the most innocuous tinkering with existing rules and regulations to the most comprehensive approach should be developed. In part, the study suffers from an a priori decision that ocean leasing is the way to go. As noted above, that assumption creates unnecessary and undesirable restraints.

Finally, one item apparently left out in regard to mariculture is the nature of the product being cultivated. As we attempt to set priorities for exclusive use of the ocean and its resources, we ought to have a set of criteria of which efforts are more in keeping with our State's goals. If self sufficiency is important, we ought to consider preference for operations that indeed promote it. The interplay between the production of luxuries for export and the production of food for local consumption might be relevant starting points in the development of these criteria.

In conclusion, the Marine Affairs Coordinator finds the study helpful, but slightly incomplete. It certainly serves a valuable purpose in focusing attention on a number of legal problems and constraints under which any State must operate. Its assumptions are somewhat subject to question, but if read as an important contribution, rather than as the definitive and last word on mariculture, it will have served its purpose. Much still remains to be done.

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII



DIVISIONS:
CONVEYANCES
FISH AND GAME
FORESTRY
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

DIVISION OF FISH AND GAME
1151 PUNCHBOWL STREET
HONOLULU, HAWAII 96813

November 12, 1980

Gerald S. Clay, Esq.
Stanton and Clay
Suite 1655, Pioneer Plaza
900 Fort Street
Honolulu, Hawaii 96813

Dear Mr. Clay:

RE: Ocean Leasing Study

The Ocean Leasing draft report represents a major undertaking which will act as a source document for many years to come. It reflects great efforts toward presenting the history of and rationale for instituting an ocean leasing system in Hawaii. We concur that this emphasis is necessary to identify and, therefore, avoid the many pitfalls associated with the establishment of such unique legislation in Hawaii. The authors are to be commended for their work. The following comments reflect a general response to the concept of ocean leasing in Hawaii as well as some suggestions for viewing this subject.

The emphasis of the report is on streamlining the process for obtaining permission to develop mariculture activities by creating a procedure for ocean leasing. Despite the need to streamline a permitting procedure for mariculture operations, there is value in requiring various agencies and organizations to review proposed mariculture operations prior to approval. Mariculture interfaces with many and diverse disciplines, such that no single agency review would be adequate to encompass total concerns. For example, the use of disease-controlling chemicals, introduction of exotic species, nutrient and thermal enrichment, point and non-point discharges, dredging and filling, shoreline access, beach erosion, wetland protection, and navigation are but a few of the issues which are likely to arise in any mariculture leasing proposal. Therefore, it would appear to be in the best interests of the State and the public to require as exhaustive an effort as possible to ensure that no irreparable damage or unnecessary infringements are encountered. In this regard, the report fails to explain how existing legislation, including the CZM Act, BLNR lease authority, State Land Use Law, DOT, DOH, Army Corps, DOA, and County permitting procedures and laws and their multitude of legal and administrative processes already in effect can be effectively utilized or consolidated for ocean leasing activities. Does the proposed legislation avoid conflict with existing laws and regulations?

The major obstacle to a successful ocean leasing program at this time is not the varied jurisdictions and governmental red tape but the experimental nature of current technology. The technology has not been tested sufficiently for ocean-based mariculture projects to ensure a safe and productive commercial venture. Mariculture

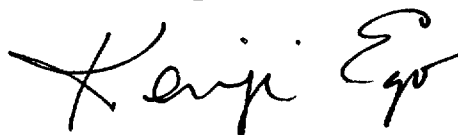
is in its infancy and the vast majority of mariculture operations are shore-based. Hawaii is lacking the protected nutrient-rich waters essential to most mariculture operations. Our clean oceanic waters are presently being utilized for intensive raceway mariculture on land. The degree of attention applied to OTEC and its potential application to mariculture may be over-emphasized, inasmuch as OTEC itself is still viewed as experimental at this point in time, and the success of mariculture operations tied to OTEC operations is even more tentative. In evaluating OTEC-mariculture operations, one must remember that the production of inexpensive power is the primary objective of an electric generating operation, and mariculture may co-exist only to the degree it does not interfere with this goal.

The experimental nature of the current technology also mandates a periodic review of the effects of the technology on the environment. This must be a covenant of the leases until such time as our experience is at least equivalent to our expectations. While the report recommends that the term of lease be a "maximum of twenty years," we contend that inasmuch as mariculture is new and as yet unproven in Hawaii, duration terms should be kept to a minimum with options for renewal so as to leave the State flexible in managing its ocean areas. A major drawback to long term leases lies in the lack of any equivalent commitment on the part of the lessee to provide the State with either minimum power supplies or mariculture products. This would be extremely difficult to require due to the experimental nature of both OTEC and mariculture operations. Therefore, the State need not feel committed to lengthy leases if the performance standards of the lessee are unsatisfactory or if the land is required for the greater public use.

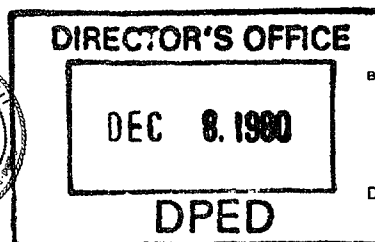
One final aspect worthy of greater scrutiny concerns the competitive bidding of lease assignments. A small farmer must be protected from the large corporation in this bidding process to prevent big business aspects from dominating the shoreline mariculture areas. Despite the financial resources available to the larger corporations, all too frequently it takes a small farmer and his individual efforts to successfully operate an aquaculture venture.

We well realize that the enactment of ocean leasing legislation in Hawaii will be fraught with a multitude of difficulties associated with traditional coastal zone issues. Nevertheless, we feel that immediate attention should be directed to evolving an ocean leasing program so that appropriate and orderly implementation of leasing activities can be undertaken to ensure protection of Hawaii's valuable ocean environment while stimulating the fledgling mariculture industry. This report has accomplished the essential tasks of focusing on the long range benefits of ocean leasing guidelines at the earliest possible stage; that of organizing and proposing unique legislation, and identifying the associated dangers worthy of further attention. Many more related issues will arise as technology evolves in this area. The State leasing plans should be flexible enough to adapt to any important developing industry. In fact, thought could be given to broadening the concept of ocean leasing to encompass many more uses, both commercial and recreational, extractive (e.g. mining) and non-extractive (e.g. boating). With this in mind, ocean leasing legislation may be premature at this time.

Sincerely,

A handwritten signature in black ink, appearing to read "Kenji Ego". The signature is fluid and cursive, with the first name "Kenji" written in a larger, more prominent script than the last name "Ego".

KENJI EGO, Director
Division of Fish and Game



SUSUMU ONO, CHAIRMAN
BOARD OF LAND & NATURAL RESOURCES

EDGAR A. HAMASU
DEPUTY TO THE CHAIRMAN

DIVISIONS:
CONSERVATION AND
RESOURCES ENFORCEMENT
CONVEYANCES
FISH AND GAME
FORESTRY
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P. O. BOX 621
HONOLULU, HAWAII 96809

REF. NO.: CPO-2380

December 2, 1980

MEMORANDUM

TO: Honorable Hideto Kono, Director
Department of Planning and Economic Development

FROM: Susumu Ono, Chairman
Board of Land and Natural Resources

SUBJECT: Final Project Draft; Ocean Leasing Study

We have had the opportunity to review the Final Draft of the Ocean Leasing Study, less the section on State of the Art; Technology Assessments and have the following comments to offer:

A. General Comments

1. The final draft is well written, easy to understand, and appears to focus clearly on the issues of importance, the concept, the need, an evaluation or alternatives as they relate to public policy and legal constraints.
2. Throughout the process leading to this draft, you have been in communication with our Department, and the draft appears to reflect many of the concerns that we articulated through the process.
3. On a general basis, we support the endeavors of the DPED and their consultant in this matter. The study provides, what we feel is a solid foundation from which a framework was molded for possible implementation.

B. Specific Comments

1. Consistency

We would view any program as it relates to ocean leasing in a perspective requiring consistency with existing land leases. The concept of viewing this program in consonance with existing State agricultural parks, agricultural financing and agricultural awards of State lands would, of course, be uppermost in our minds as the program progresses.



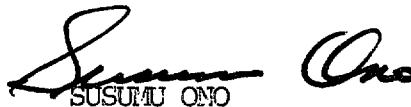
We would view any award of ocean lands (submerged, water, column, surface) in the same perspective as presently expressed and provided for in Chapter 171, HRS, as amended.

We would view the police power (zoning) given the State in the same aspect as is presently exercised under Chapter 183-41, HRS, as amended.

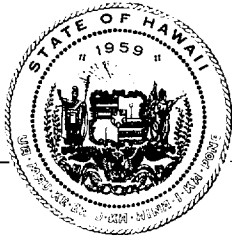
2. Proposed Legislation

The final draft provides for several proposals for legislation for ocean leasing. Our understanding is that these proposals will now be analyzed by the DPED such that a proposal evolves which will eventually be presented to the legislators for consideration. We would appreciate the continued involvement of our Department in analyzing these measures such that the DPED and DLNR are in concert as movement through the process continues.

We appreciate the opportunity to comment on this matter. Further, please feel free to contact Mr. Roger C. Evans of our Planning Office at 7837 for any assistance your department may require. We would appreciate working closely with you such that a successful program, in the interest of all our people, is established.


SUSUMU ONO

cc: Mr. Gerald Clay



DEPARTMENT OF PLANNING AND ECONOMIC DEVELOPMENT

Kamamalu Building, 250 South King St., Honolulu, Hawaii • Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

GEORGE R. ARIYOSHI
Governor

HIDETO KONO
Director

FRANK SKRIVANEK
Deputy Director

November 13, 1980

Stanton and Clay
Attorneys-at-Law
Suite 1655
Pioneer Plaza
900 Fort Street Mall
Honolulu, Hawaii 96813

Dear Sirs:

It was a pleasure to review the final draft of the ocean leasing study undertaken by your office. This comprehensive study provides an excellent foundation for further thought and action in regard to the development of Hawaii's ocean resources. It is a most welcome guide to the issues which must be addressed in a mariculture or OTEC licensing regime.

For those who may not have the opportunity to read the entire report, I would like to recommend reading: (1) the Executive Summary, (2) the discussion of the Submerged Lands Act in Sections V(A)(1) and (2); (3) the discussion of privileges and immunities and equal protection, found in Sections V(C)(4) and (5); and (4) the discussion of the public trust doctrine at Section V(D)(1). These Sections form the basic parameters for ocean leasing. They demonstrate that the State's authority to lease the water column is not completely assured under the Submerged Lands Act; the State must be careful to avoid undesirable or illegal discrimination against potential commercial users; and the purpose and language of an ocean leasing act must meet the requirements of the public trust doctrine. After those sections, I would recommend to the busy reader the very interesting State variations which may result from Hawaii's archipelagic claims, as described in Section V(B)(4), and Konohiki fisheries/native Hawaiian rights, described in Section V(E)(2).

While the historical record and current State practice support a State's right to lease ocean space for commercial activities, the language of the Submerged Lands Act is not conclusive in this regard. The study makes a number of good arguments to support State jurisdiction. However, the potential importance of Hawaii's ocean activities is such that it may be worthwhile joining with other States and their Congressional delegations to discuss the possibility of amending the Submerged Lands Act to clearly include State jurisdiction over the water column.

The study also indicates the need to avoid the difficulty of not excluding potential commercial users of the ocean. For example, in the commercial development discussion, it is noted that the high cost of environmental impact statements and licensing procedures could make it nearly impossible for small companies and individuals to obtain licenses. The exclusion of small operators due to high costs could forestall the development of numerous small projects which, when added together,

could become very significant to the economy. The "administrative lease" and "mariculture park" are thus of great importance. The study also points out that non-resident companies and individuals may not be excluded if it would be a violation of the privileges and immunities or equal protection clauses of the U.S. Constitution. This is important, since the exclusion of non-resident corporations could forestall the development of projects such as OTEC which require far larger amounts of capital than are likely be accumulated within the State.

The study arrives at a time when ocean resources are receiving new attention. The Hawaii Coastal Zone Management Program, which is part of DPED, is currently undertaking an "Ocean Management Program" to lay the foundation for ocean planning. One of the goals of the DPED is to produce an ocean resources functional plan by June, 1981. The need for a State ocean resources functional plan is underscored by the requirements of the public trust doctrine. A marine resources inventory and ocean development plan are necessary under the doctrine to justify the allocation of ocean resources. A particular site for mariculture use, for example, can best be justified by describing the total number of sites and their comparative potential. Finally, discussions are underway in regard to the formation of an Ocean Resources Office within the DPED. This office would coordinate activities with the Office of the Marine Affairs Coordinator, which has been assigned to the DPED for administrative purposes.

A facilitator for permit applications could have a very favorable impact, and would be consistent with the complementary roles of the Department of Land and Natural Resources and the DPED. At present, the Board of Land and Natural Resources has regulatory responsibilities by virtue of the designation of offshore waters as a Conservation District. It is wise to continue the separation of functions so that the DPED carries out ocean planning and the DLNR carries out ocean regulation. First of all, it is easier for planners and industry representatives to exchange ideas and develop opportunities if the planners do not issue the permits. In that case, neither party will mistake any representations as being commitments regarding government or industry action during the permit process. Second, by separating the planning and regulatory functions, the regulatory agency may be able to view applications with more objectivity than could those who have been heavily involved in the planning and development stages. This concept of the separation of development and regulatory functions is found at the federal level. For example, OTEC is to be developed by the U.S. Department of Energy, but regulated by the U. S. Department of Commerce.

Is ocean leasing legislation timely? Commercial-scale mariculture and OTEC activities are many years away. On the other hand, a clear legal regime is essential to commercialization because it describes the parameters in which industry must operate. Even more important, once a legal regime is clearly established, industry can apply for and obtain leases, which they must have in order to raise the necessary funds from the private financial community.

Based on the study, ocean leasing legislation should follow two preliminary steps. First, the State might investigate the possibility of strengthening the Submerged Lands Act to make it clear that the State has the authority to issue leases for the water column. Second, the State should produce an ocean resources functional plan to meet

Stanton and Clay
November 13, 1980
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the public trust doctrine requirements. Then, when legislation is introduced, it will be grounded in explicit statutory authority and will incorporate the community input received during the planning process. The legislation should thus be able to withstand legal attack.

Is legislation needed at all? Obviously, permits are now being issued by a number of County, State, and Federal agencies for ocean and ocean-related projects. Is anything further needed? I believe that the major contribution of the study is that it answers that question. The answer is yes. Legislation will indeed be needed to establish the State's authority to issue leases and collect revenues under the public trust doctrine, to consolidate the State's efforts in ocean management, and to facilitate the licensing system to accelerate development where the public deems it advantageous. Until we draw closer to commercial-scale mariculture and OTEC activities, however, the time may be best spent conducting studies such as this one, receiving community input on our preferred future for ocean uses, and securing a clear basis in federal law to exercise the jurisdiction necessary for successful ocean development.

Again, my congratulations on a job well done.

Very truly yours,

A handwritten signature in black ink, reading "Kent M. Keith". The signature is fluid and cursive, with the first name "Kent" and last name "Keith" clearly legible.

Kent M. Keith, Coordinator
Office of the Director

KMK/lyk

DAMON, KEY, CHAR & BOCKEN

ATTORNEYS AT LAW - A LAW CORPORATION

10TH FLOOR, CITY BANK BUILDING

810 RICHARDS STREET

HONOLULU, HAWAII 96813

TELEPHONE (808) 531-8031

DUDLEY C. LEWIS
HENRY H. SHIGEKANE
OF COUNSEL

CABLE ADDRESS
"ADVOCATES"

C. F. DAMON, JR.
CHARLES W. KEY
VERNON F. L. CHAR
CLINTON K. L. CHING
R. CHARLES BOCKEN
DENIS C. H. LEONG
KENNETH R. KUPCHAK
CHARLES H. HURD
STEVEN H. LEVINSON

DIANE D. HASTERT
CARL TOM
RONALD R. SAKAMOTO
MICHAEL K. KAWAHARA
BARBARA G. BECK
RALPH D. BLACK
MICHAEL A. YOSHIDA

November 21, 1980

Gerald S. Clay, Esq.
1655 Pioneer Plaza
900 Fort Street Mall
Honolulu, Hawaii 96813

Re: Ocean Leasing Study

Dear Mr. Clay:

A review of your legislative proposals raised several questions which are referenced below for your consideration. Your attention is also drawn to my previous letter on your initial draft, for many of those comments remain applicable. The present draft appears to be the result of a very professional approach.

Initial comments include:

1) Section 1 appears designed to cover multiple uses and is not limited to OTEC and Mariculture uses. More importantly, the second sentence of the first full paragraph after subsection 3 indicates the State wishes to permit activities which do not significantly interfere with other "ocean uses". As previously discussed, this sentence should be expanded so as to preclude significant interference with the "environment" as well as "ocean uses". Subsection 2 reads "...these new ocean activities will require...". The word "will" should read "may".

2) In Section 2(A), the definition of "administration lease" appears too broad and lacks an environmental tie. As the draft does not indicate the purpose of an administrative lease, it is somewhat difficult to comment. If the same findings need to be made with administrative lease, this may solve some of the problem I foresee with its potential use with the requirement of an environmental review.

3) Section 3(A) substantially shifts the burden from that set forth in the previous draft which placed more emphasis on preventing adverse environmental impacts. The new language is too broad and subject to abuse.

Gerald S. Clay, Esq.
November 21, 1980
Page Two

4) Will an OTEC facility also be governed by the Public Utilities Commission? If so, the lease should be conditioned upon the Lessee complying with its PUC obligations.

5) Section 4(A)1(a) includes the word "defray". Stronger language should be considered requiring that the entire cost should be borne by the applicant.

6) Section 4(A)2 should be changed to permit the Board to require the applicant to reveal proprietary information where necessary. This may be necessary for the Board to determine the impact of a contemplated process. The applicant may be protected, however, by requiring that such information be kept in camera.

7) As discussed at our recent meeting, competency under paragraph 4(A)3 should be defined to include financial ability as well as experience and expertise.

8) Paragraph 4(B)2 is overly general. It weakens the earlier language with respect to environmental impacts.

9) Section 6 creates the spector of conflict of interest by having a potential expeditor (6(A)2) within the DLNR. Again it is suggested that this officer be located within DPED, perhaps in the CZM program. See my prior letter for further elaboration.

10) Section 7(B) may be too broad a granted discretion.

11) Sections 7(C)2(b) and 3(b) use the word "indemnify"; perhaps the word "reimburse" would be more appropriate.

12) Section 8(A)3(a) speaks in terms of "efficiently use". You may wish to add the words "and protect the public interest".

13) You may wish to consider having each lease require the lessee to: (i) conduct initial base line studies to determine the scientific parameters of the location; and (ii) monitor such parameters throughout the lease.

Gerald S. Clay, Esq.
November 21, 1980
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14) Section 8(A)4(b) causes some concern in that the bond appears conditioned on active pursuit of the use and not upon protection of the environment. Some further analysis of this section might be in order. The forfeiture for nonperformance might be expanded to include malperformance or matters beyond the lessee's control, such as an escape of exotic plants or animals or of toxic substances.

15) Section 8(A)10(b) also is limited to plants or animals found outside the leased area. It is conceivable that toxic substances or other harmful materials may also escape the area which may endanger the environment. The lessee should also be responsible for any damage caused thereby or for the cleanup thereof.

16) Sections 8(A)7(b) and 12(b) speak in terms of adverse effects being produced or causing immediate danger. These sections should be expanded to include threatened effects or threatened danger.

17) Further examination of the suggested penalties appears in order; some appear manini compared to the potential danger caused by a breach. The fines might be treated as a cost of business.

Hopefully I will have an opportunity to review the proposal in greater depth and provide you with more subsequent comments. Mahalo for your consideration.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Kupchak', with a large, stylized flourish extending from the bottom right.

Kenneth R. Kupchak

KRK:kyn

December 23, 1980

The Honorable Hawaii State Legislature
Hawaii State Capitol
Honolulu, Hawaii

Re. Proposals for Legislation for Ocean Leasing.

Honorable members of the Hawaii State Legislature:

The Mariculture Leasing Study, headed by Honolulu attorney Gerald S. Clay, is a significant step towards the development and commercialization of our ocean resources. Mr. Clay and his associates deserve to be commended for their efforts and their final product. They have considered a great deal of technical information in conjunction with their study on the legal aspects of ocean leasing. This study was further enhanced by the thoughtful contributions of the members of the Advisory Review Committee on Mariculture leasing. It was my pleasure to serve with such a distinguished group of perceptive and concerned people. The net result of the above said efforts is a statement on the state of the art of ocean resource development, a comprehensive review of the policy considerations of ocean commercialization and the proposals for legislation for ocean leasing.

This is in response to the final product of that study and the significant considerations treated therein. It is intended to emphasize the need for the use of extreme caution in proceeding towards the commercialization of Mariculture and Ocean Thermal Conversion (henceforth referred to as OTEC). There are increasing indications that we can no longer afford to ignore the potential benefits of commercial ocean resource development. Hawaii can and should be a leader in this field. However, such leadership requires a responsible attitude towards the preservation of the cultural, social and economical uses of the ocean for our future generations. Such a leadership goal can only be achieved through complete and exhaustive ocean leasing legislation. Some may argue that the proposed legislation is over-inclusive and technically cumbersome. Admittedly, there may be some need to streamline such legislation wherever such action is prudent. However, prudence requires that we view the benefits of streamlining public interest provisions therein with a jaundice eye. Notwithstanding the apparent difficulties which accompany exhaustive ocean leasing regulation we must proceed with all due caution. The essence of ocean development policy is the net improvement of our standard of living. The task of regulating such development includes the enormous responsibility of protecting and preserving the delicate balance of our oceanic environment. If we must err, then let us err in favor of caution, even at the risk of over-regulation.

It would be misleading to suggest that exhaustive legislation would not present problems of its own. The ability of Hawaii's Mariculture leasing program to attract large domestic and foreign investors may suffer temporary impediment. However, prudence demands that any benefit gained through legislative streamlining clearly outweigh the potential detriment to our ocean environment.

SMALLER MARICULTURE OPERATIONS

One potential advantage to a conservative approach to Hawaii's initial ocean leasing legislation is related to the future of smaller mariculture operations. Perhaps a more gradual approach from shoreline activities towards marginal and open ocean activities encourage smaller-local based entrepreneurs to venture into the Hawaii State Mariculture Leasing Program. An Ocean Resources Liaison Officer, as suggested in Section 6 of the Proposals for Legislation for Ocean Leasing, would be instrumental in educating and assisting such smaller operations. Such a head-start would better prepare these smaller-local based investors to cope with the requirements of commercial mariculture operations. These early operations would also provide future legislators with invaluable information relevant to the protection of such smaller operations. For it is clear that the smaller operations must eventually face the strenuous competition that the larger conglomerations would present.

Members of the Department of Land and Natural Resources earnestly contend that many of the procedural requirements of the proposed legislation are unnecessary and cumbersome. They argue that present DLNR provisions sufficiently satisfy all concerns surrounding Mariculture and OTEC leasing. That proposition may not be totally accurate and deserves close scrutiny. While many of the present DLNR rules and regulations may be applicable to ocean leasing situations, such regulations are not designed to address the unique qualities of our ocean environment. Whereas applicable DLNR regulations and policies may be incorporated into the ocean leasing regulations, that existing body of rules need not be ignored. However, it would behoove all concerned parties to have cohesive and comprehensive source of ocean leasing legislation.

To rely on the present DLNR leasing scheme is to ignore one glaring fact; the land and the ocean are not the same! Issues of jurisdiction, public trust, property rights, common usage and environmental rights in relation to the ocean must be approached with a clear recognition of the unique properties and characteristics of our ocean resources. The fact that present technology has yet to establish an accurate means of measuring the environmental impact of certain ocean activities illuminates the need for a separate and comprehensive body of laws governing ocean leasing.

The inherent difference between land-bound resources and our ocean resources reveal basic legal problems. The power of the State to grant ocean leases and to regulate ocean activities is not clearly established. For years now, the Federal Government has exercised jurisdiction over the marginal and open ocean waters surrounding the Hawaiian Islands. The Federal Government has maintained their jurisdiction over such waters on the basis that they have exclusive jurisdiction over interstate commerce and thoroughfares thereof. They also rely on the national security requirements involved in controlling open ocean channels.

It is not expected that the State would oppose a scheme of cooperations for the sake of national security. However, the issue of jurisdiction over marginal and open ocean leases and activities must be resolved in favor of the State in order to guarantee the State's ability to maintain a posture of "home-rule" over ocean activities in Hawaiian waters. It is inconceivable that the Hawaii State Legislature would welcome a situation where the decisions affecting the ocean activities in our State would be subject to the whims of political powers in Washington D.C..

The State of Hawaii seems to have a legally potent basis for obtaining an exception to the Federal interstate commerce argument mentioned above. Hawaii is one contiguous archipelagic state. State jurisdiction over the waters surrounding and separating each island of the archipelago is essential to the maintenance of the coherent status of the contiguous State of Hawaii. Therefore all commercial ocean activities in the archipelago are rightfully within the jurisdiction of the State. Furthermore, State jurisdiction over the marginal and open ocean/commercial activities is necessary to safeguard the health and the welfare of Hawaii's citizens. That necessity entitles the State of Hawaii to an exception to the interstate commerce powers of the Federal Government.

One approach to supporting the State's position on the ocean-jurisdictional issues is to specifically provide, within the ocean leasing legislation, language which clearly establishes that the effects of commercial ocean activities upon the health and welfare of Hawaii's citizens is the paramount concern of our State Legislature. Such concern should be clearly reflected in the findings, the definitions and the statement of purpose that will set the tenor for subsequent provisions of the State of Hawaii Ocean Leasing Laws. The proposed legislation contains many provisions based on various Public Trust Doctrines. The adoption of these provisions are essential to providing adequate support for the State's legal position on ocean-jurisdiction.

Notwithstanding the uncertainties of jurisdiction over ocean resources relevant to large scale ocean activities, smaller shoreline activities can and should commence immediately. Assuming that the State is successful in maintaining its jurisdictional power over commercial ocean activities, the task of regulating such activities involves many diverse concerns. The challenge facing the legislature is to deal with all such concerns in a scheme which best promotes the public interest.

PUBLIC ACCESS

The proposed scheme of ocean and commercial leasing provides for the exclusive use of designated areas by approved lessees. Certainly, such exclusive use of designated areas is a necessary element for attracting the kind of large investors that some of the more complex ocean activities require. However, we must recognize that such exclusive use will present a constant threat

to public access. The restrictions upon public access increases as the designated area of exclusive use increases.

Section 4 of the Proposals for Legislation for Ocean Leasing provides for License Application and Guidelines for License Approval. The protection of existing private ocean activity, public activity and public access is highly dependent on Section 4. Section 4 (B) of the proposed legislation is more specifically related to establishing guidelines for license approval. Under that section the governing Board must consider the extent to which the proposed activity shall have a significant adverse effect upon any existing private industry or public activity, or shall interfere with the use of marine waters for the purposes of navigation, fishing and public recreation.

Section 8(3) of the proposed legislation pertains to the Maximum Size of Area to be Leased. That section allows adjacent area increases of existing commercial leases. Thus it would be possible for a commercial lease of 100 acres of ocean surface to expand to adjacent areas of the same size thereby creating an additional encumbrance upon the rights to public access. One direct result of such lease area increases would be the obstruction of traditional passages now available to professional and recreational fishermen. The net effect of such obstruction may not be discoverable for several years. But the expected effect would be an increase in the operational costs to local fishing fleets. The effect that fishfarming cages and OTEC facilities will have on the migrational patterns of wild fishlife is still an uncertainty. That uncertainty is a considerable threat to our existing fishing industry. Unless the right to public access through proposed lease areas are protected we run the risk of unjustifiably creating a new class of criminal from what is now a respectable class of professional and recreational fishermen.

Inasmuch as public access is an important aspect of ocean leasing, Section 9(11) of the proposed legislation regarding Lease Provisions and Rights of the Public must be preserved both in letter and in spirit. The effectiveness of Section 9(11) is contingent on the ability of the State to police and enforces any leases granted by the Board. The policing and enforcement duties of the responsible agency would be greatly enhanced if the legislature were to establish some cognitive standards regarding the provisions of Section 9(11). For example, the phrase "reasonable means of public ingress and egress to and from leased areas" should be further defined to ensure sufficient compliance therewith. Such clarification would also provide prospective investors with a more definite assessment of the responsibilities involved in ocean leasing within Hawaiian waters.

NATIVE HAWAIIAN RIGHTS

The ocean has been a traditional source of spiritual power, nutrition, recreation and cultural solidarity for the Native Hawaiian. In recognition of the age-old relationship between the Native Hawaiian community and our Hawaiian waters this legislature cannot afford to neglect the concerns of that community regarding the preservation of their ancestral birthrights. Presently, we are fortunate to have an Office of Hawaiian Affairs with a Board of Trustees, elected by people of Native Hawaiian Ancestry. Thus our legislature has a tremendous opportunity to solicit the valuable input of a significant body of Native Hawaiian Representatives. This is not to suggest that other Native Hawaiian Groups should be excluded from contributing their mana'o (feelings) for all concerned Native Hawaiian Groups are entitled to be heard. Notwithstanding that fact, the Office of Hawaiian Affairs can be instrumental in providing our legislature valuable information and insight pertaining to the Native Hawaiian concerns regarding the proposed ocean leasing legislation.

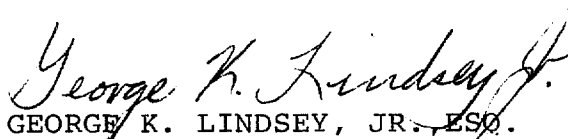
Section 11 of the Proposals for Ocean Leasing Legislation provides for the preservation of KONOHIKI FISHING RIGHTS. While the provisions therein seem to protect the Konohiki fishing rights as recognized by HRS 188-4 and 188-5, there is no substantial mention of other Native Hawaiian rights that will be effected by open ocean resource development and leasing. As a matter of common courtesy to the Native Hawaiian people, such concerns must be protected in the body of our ocean leasing legislation.

CONCLUSION

Hawaii stands on the threshold of a new frontier. State participation in ocean resource development stems from a recognition of the great potential therein for contributing to the energy and protein self-sufficiency goals of the State of Hawaii. The successful achievement of those goals will be a major challenge of the 1980's. The success or failure of the State's ocean ventures depends upon the responsible attitude of our legislators and administrators towards the preservation of the cultural, social and economical uses of the ocean for future generations. State power over the ocean is held in public trust. Thus State decisions on ocean resource development are subject to the fiduciary duty to protect the public interest in terms of public access, health and welfare. Related to that fiduciary duty are such considerations as conservation requirements and environmental rights. Hawaii also has a special duty to preserve Native Hawaiian Rights which traditionally relate to ocean use.

I trust that the members of the Hawaii State Legislature will have the insight and the foresight to successfully shoulder this enormous responsibility. The desire to attract large corporate investors and the promise of a stronger state economy present a tremendous temptation to favor administrative ease and legislative carelessness. Such a temptation must be withstood in the public interest. We must approach this new frontier with extreme caution. We must focus on preserving the integrity and pride of our people, our ocean resources and the birthrights of our future generations.

Very Truly Yours,


GEORGE K. LINDSEY, JR., ESQ.

Member of the Advisory Committee
for the Mariculture Leasing Study

26 November 1980

Mr. Gerald S. Clay, Esq.
Stanton and Clay
900 Fort St. Mall, Suite 1655
Pioneer Plaza Building
Honolulu, Hawaii 96813

Dear Mr. Clay,

Attached are my revised comments on the draft of the Ocean Leasing Report. Conversations with you and with Ms. Sherry Brader, Esq., indicated that most of my earlier comments dated 10 November 1980 are to be incorporated into the final version of the report. As a consequence, Ms. Broder suggested that my revised comments should highlight what I believe to be main issues or problems. These comments are my own views and do not represent the opinions of the U.S. Army Corps of Engineers, Pacific Ocean Division.

Exotic Species.

The issue of the environmental risks associated with the introduction of exotic or nonindigenous species for mariculture purposes needs more equitable and thorough discussion in the reports (see pp. 1-5, 11-46, 11-47, 111-15, 111-18 of the draft report). Probably more than any other single factor, the inadvertent or intentional introduction of nonindigenous species has caused the endangerment or extinction of many Hawaiian species. Certainly the controls over the importation of exotic species have not been stringent enough in the case of some recent introductions involving marine and mariculture species. For example, careful scrutiny and public controversy revolving around the introduction of Eucheuma to Hawaii did not prevent its "escape" outside of enclosures and spread throughout Kaneohe Bay during the past several years. Despite controls and precautions adopted during the processing of permits for use and study of Eucheuma in Hawaii, wild populations of the seaweed have established, are spreading, and nobody has expressed interest in the outbreak or responsibility for its removal or control. This one incident underlines the need for greater regulatory control, more careful supervision of research studies, and the assumption of responsibility by sponsors of mariculture nonindigenous species to eradicate or control such species if they escape. It may also point to the need for more careful screening of research proposals involving exotic species and intensified enforcement actions by those agencies charged with the responsibility of exotic species control. In any case, the Ocean Leasing Report needs to present this issue in a more balanced and less biased manner.

Environmental Risks.

The discussion of environmental risks (pp 111-15) needs to be revised somewhat to consider that some environmental risks are more serious than others and that any consideration for "zero" or minimum risks should be dependent upon the severity and impact of the potential risk. For example, a temporary degradation of water quality during erection of mariculture facilities may be tolerated to a greater degree than the accidental escape of an exotic species, such as an eel,

Mr. John Corbin, Director
26 November 1980

which might deplete other native species and impact on native fisheries for an indefinite or permanent time period. In summary, the issue of "zero environmental risk" is too complicated to be generalized and considered as a simple policy; risks and controls will need to be evaluated on a case-by-case basis.

Environmental Regulations.

Although some forms of environmental regulations appear unfair to Hawaii because of comparison to continental U.S. standards (see pp III-19), other environmental regulations need to be strengthened because of Hawaii's small size and the vulnerability of its unique species and ecosystems. For example, Hawaii's geographically isolated position in the Pacific has led to more intense speciation and more reduced selective pressures that characterized the evolution of continental U.S. plants and animals. As a consequence, Hawaii's biota at the time of Captain Cook was comprised mostly of species found nowhere else on earth. With the coming of western man, many exotic species were introduced to Hawaii and gained immediate competitive advantage over native species. Other factors, such as draining, dredging, or filling of wetlands, streams and other aquatic habitats have also contributed to the demise of the endemic biota. As a consequence, Hawaii has the dubious distinction of having more of its plants and animals heading towards, or already achieving, extinction than any other comparable place on earth. So while it is important to dismiss irrelevant "continental U.S." regulations and standards when appropriate, it is also equally important to develop other regulations and standards commensurate with the unique insular tropical and fragile environment that characterizes Hawaii. In this regard, the example cited on page III-19 is inappropriate.

Environmental Information Requirements.

The report gives the impression (see pp III-19, III-20, IV-9) that extensive information will be required to satisfy environmental impact data needs; this in turn leads to further assumptions that the "extensive" data will cost much money to collect (see pp IV-15). These generalizations, of course, are oversimplified. For example, it would be logical to assume that small "mom and pop" mariculture operations would require proportionately less information than large scale commercial operations. Another example would be that the maricultural use of established native species will require less information than the use of imported species which could introduce new diseases and other threats to the native ecosystems. Also the need to acquire information for strictly "environmental" needs should be distinguished from public health requirements, the latter which may involve more extensive and costly data. Thus, it is not possible to generalize regarding the extent and cost of environmental data needs; such needs have to be evaluated on a case-by-case basis.

Submerged Lands Act Interpretation.

From my marine biological perspective, the argument that the SLA definition of natural resources was intended to be broad and include virtually all living resources on or beneath the ocean floor or within the water column is open to opposing interpretation. First of all the definition refers to specific organisms which reside exclusively on the ocean floor (e.g. sponges, oysters, clams) and other organisms which commonly reside on the ocean floor. However,

Mr. John Corbin, Director
26 November 1980

the list did not include organisms which reside exclusively in the water column (e.g. squid, zooplankton, phytoplankton, jellyfish). Consequently, another interpretation is that the draftors of the SLA definition were intending to focus on bottom dwelling or benthic life. If this interpretation is correct, it may have some bearing on the use of the act to establish an ocean leasing policy or law in Hawaii.

Is mariculture a fishery?

On page V-133 of the draft report, I strongly disagree with the commentators interpretation that "...Mariculture...undoubtedly will be considered a fishery." Other than the fact that both activities may involve fish, they have very little else in common. Fishing in the traditional sense involves the capture of wild species living within largely uncontrolled habitat or space while mariculture involves the controlled growth of domesticated or cultered species in a confined specific space. Mariculture is no more like fishing than agriculture/animal husbandry is like hunting.

Additional Federal controls over importing of fish and wildlife.

In the August 25, 1980 version of the Federal Register, the U.S. Fish and Wildlife Service states that persons engaged in business as an importer or exporter of fish or wildlife and their parts or products, are now required to be licensed by the Service. This may have some implications for future mariculture ventures involving the importation and use of nonindigenous species.

Rights of fishermen, harvesters, and collectors near mariculture facilities.

Some consistent and fair policy will need to be established regarding the rights of fishermen and others to catch or collect species attracted to OTEC or mariculture facilities. Unless properly handled, this issue itself could lead to public controversy. For example, if mariculture or OTEC operations prevent access of fishermen up to the sides or underneath facilities, mariculturalists may be accused of causing depletion of available fish stocks from adjacent public areas. The situation would be even more aggravated if OTEC or mariculture operators and staff retain unfair advantage over fishermen to catch attracted species. In a sense, the structures may serve as "fish attractants". To avoid controversy, either the operators must allow unrestricted access of fishermen up to the sides or boundaries of pens and enclosures or must not allow any fishing - even by mariculture workers - within a buffer zone surrounding the facility, if one needs to be established to provide security. There are drawbacks to either option: the second alternative would be unpopular to fishermen while the first would increase the chance of poaching and vandalism of OTEC/ mariculture products and facilities.

Technical description of OTEC.


The Ocean Leasing Report has failed to discuss some of the recent serious technical problems involving the deployment of OTEC-1 off the north Kona coast of Hawaii island. Certainly this needs to be updated and added to the report.

Mr. John Corbin, Director
26 November 1980

Also the figure cited for 3.68 billion gallons per day of discharge waters for a single 50 MW plant seems to be in error. This flow would be roughly equivalent to half of the combined discharge of all of the natural stream flow in the Hawaiian Islands. Flow of this magnitude doesn't seem possible from a single plant. The calculations should be carefully rechecked because of the significant implications for mariculture potential and environmental impacts.

Thank you again for the opportunity to serve as a member of the ocean leasing Ad Hoc Advisory Group and I hope that my comments have been useful. I look forward to receipt of the final report.

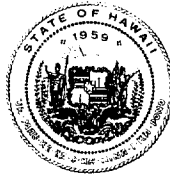
Sincerely,



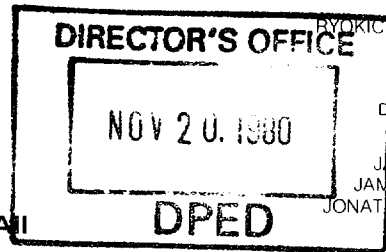
JAMES E. MARAGOS
Chief, Environmental Resources Section

CF:
Ms. Sherry Broder, Esq

GEORGE R. ARIYOSHI
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813



RYOKICHI HIGASHIONNA, Ph.D.
DIRECTOR

DEPUTY DIRECTORS

JACK K. SUWA
JAMES R. CARRAS
JAMES B. McCORMICK
JONATHAN K. SHIMADA, Ph.D.

IN REPLY REFER TO

November 17, 1980

HAR-PM 1960

MEMORANDUM


TO: The Honorable Hideto Kono, Director
Department of Planning & Economic Development

FROM: Deputy Director, Department of Transportation

SUBJECT: OCEAN LEASING STUDY - FINAL DRAFT

We have reviewed the subject draft and can offer no constructive comments.

However, since the offshore activities will be conducted in waters under the jurisdiction of the Department of Land and Natural Resources, said Department should be afforded the opportunity to review this study.


James B. McCormick



Hawaiian Dredging & Construction Company

November 14, 1980

Mr. Jerry Clay
Stanton & Clay
Suite 1655 Pioneer Plaza
900 Fort Street
Honolulu, Hawaii 96813

Re: Ocean Leasing Study

Dear Jerry:

Thank you for the opportunity to review the draft of your project report. Under separate cover, I previously forwarded some suggested changes to the OTEC Technical Section. Then, I would offer the following observations:

1. I feel it is important that the financial "facts of life" for an OTEC plant be widely understood. The first cost or investment in an OTEC plant is very high by comparison to traditional oil or coal fired power plants. On the other hand, OTEC plants use no fossil fuels; this means that OTEC's operating costs are very low. The result is that OTEC electricity can be priced at or near the same level as electricity from oil fired plants.

Put another way, all the investment in an OTEC plant has to take place before electricity is generated; but with the high first cost and the lack of a proven track record, it will be very difficult to obtain the investment funds needed to build the first commercial OTEC plant, and obtain the non-polluting, non-oil-dependent electrical power that we all seek. Yet, as the cost of oil continues to rise, Hawaii's needs will become more pressing.

For the development of OTEC and in fact every source of alternate energy, it is of great importance that our State do everything possible to encourage alternate energy development and carefully avoid any regulatory action that potential energy developers could interpret as an added burden or a barrier to development. If we are to obtain this energy, the State will have to continue, and increase, its support; licensing and permitting will have to be facilitated, and licenses will need to have long fixed terms.

Hawaiian Dredging & Construction Company

There should be no thought of obtaining State revenue by the plant licensing process; indeed State support via tax forgiveness or other subsidy will likely be needed. The alternative is continued dependence on imported oil.

2. One barrier that must be avoided is any suggestion of a State royalty or fee on OTEC electricity. As you know, the payment of royalties to a resource owner is common where a depletable resource is being mined or extracted as in a quarry, or an oil well. Clearly, the sun's energy cannot be depleted by man, and there should be no royalty charge imposed on OTEC.

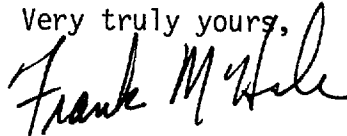
Of course, if the State encourages OTEC and a plant is built, the State will see considerable benefits from the cascade effect of the construction investment, added employment in Hawaii, and increased tax revenues. Following the economic framework discussed at the beginning of this letter, the millions of dollars annually flowing to foreign oil producers will be spent largely in Hawaii on constructing the OTEC plant.

3. In the legal section of your report, I suggest you add reference to the laws and regulations which govern submarine cables, since such cables may well be a part of an OTEC plant. There is an existing United States law, the Submarine Cable Act, 47 USC 21-33 which sets penalties for injuring undersea cables. There is also an International Convention for the Protection of Submarine Cables, although at the present time I would not expect that an OTEC plant for Hawaii would be located in international waters.
4. The concept of a one-stop permitting office in the State Government is to be endorsed. It is particularly recommended that any new regulations contain language that will cause State agencies to move closer to the recent practice of the Army Corps of Engineers. The Corps, in its permitting responsibilities, has begun declaring that certain categories of activities, individually examined in the past, have "excluded category" status and so are not required to follow the whole rigorous EA/EIS application process. Thus, the aspects of an OTEC plant that have already been investigated, for example the cold water plume, would not need to be re-addressed in a new plant permit application. The experience we gained from the Mini-OTEC project should be preserved and used to help us to energy self-sufficiency.

Hawaiian Dredging & Construction Company

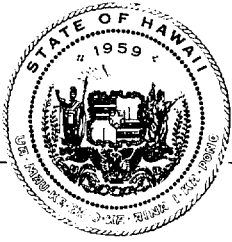
We appreciate this opportunity to comment on your report and would welcome participation in future examinations of this subject.

Very truly yours,

A handwritten signature in black ink, appearing to read "Frank A. McHale". The signature is written in a cursive, flowing style.

Frank A. McHale
Project Manager

FAM:jfk



DEPARTMENT OF PLANNING AND ECONOMIC DEVELOPMENT

Kamamalu Building, 250 South King St., Honolulu, Hawaii • Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

GEORGE R. ARIYOSHI
Governor

HIDETO KONO
Director

FRANK SKRIVANEK
Deputy Director

November 12, 1980

Ref. No. 2364

Mr. Gerald Clay
Stanton and Clay
A Law Corporation
Pioneer Plaza, Suite 1655
900 Fort Street
Honolulu, Hawaii 96813

Dear Mr. Clay:

Subject: Review of Project Draft of the Ocean Leasing Study

We have reviewed the subject draft report and wish to make the following general comments for your review and consideration:

- 1) As noted in numerous sections of the report, the importance of a properly coordinated Ocean Area Resource Management Plan is apparent in the establishment of an ocean space leasing program within the State of Hawaii. This plan would include, among other essential elements, a clear definition on State goals, objectives, policies and priority directions involving the use of Hawaii's unique coastal and ocean resources.

In this regard, you should be aware that the Hawaii Coastal Zone Management (CZM) Program has begun work on the development of such a plan. In our preliminary project scoping, we have become aware of the unique planning challenge to identify, classify, and interpret the numerous interrelationships among a wide range of ocean activities which operate in Hawaii's dynamic, three-dimensional ocean space. Moreover, there are several proposed activities which may directly impact the ocean leasing program, including the designation of restrictive military training areas, the Humpback Whale Sanctuary proposal, and the designation of a Critical Habitat in the Leeward Islands for the endangered Hawaiian Monk Seal.

- 2) We note that the draft report and proposed legislation do not specifically identify the need to develop an effective "monitoring program" which will ensure that proposed commercial marine activities are in keeping with identified resource management principles. An appropriate agency should be charged

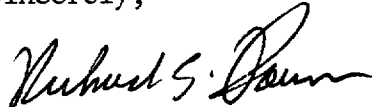
with this responsibility and be given appropriate funds to collect needed baseline data while continuously surveying commercial activities so as to enhance positive attributes while mitigating those activities or conditions which may appear detrimental.

- 3) The draft report makes no mention of the interrelationship of the report with the recently prepared area functional plans promulgated through the Hawaii State Plan. Section 9 of the proposed Ocean Leasing Act, for example, identifies that "the Board (BLNR) is empowered to develop, on behalf of the State or County in partnership with others, State marine waters as ocean parks for commercial, administrative, experimental and scientific and educational purposes." No such proposal has been included, or even preliminarily discussed, within the Conservation Lands Functional Plan. Nor does the State Agricultural Functional Plan identify that the Department of Agriculture "shall negotiate with appropriate private insurance companies to provide a comprehensive insurance plan for mariculturists..." (Section 15 (1)).

In this regard, and in keeping with the Hawaii State Plan, Statewide Planning System (see Hawaii State Plan, Part II Planning Coordination and Implementation), we recommend that an effort be made to coordinate those recommendations proposed by the draft Ocean Leasing Act with the appropriate State functional plans.

Thank you very much for the opportunity to comment on this most interesting study. If we can be of any further assistance, please feel free to contact us at any time.

Sincerely,



Richard G. Poirier, Chief
Long Range Planning Branch

Systemculture Seafood Plantations

November 19, 1980

Mr. Gerald S. Clay
Stanton and Clay
Attorneys at Law
Pioneer Plaza, Suite 1655
900 Fort Street
Honolulu, Hawaii 96813

Dear Jerry,

I have read the final draft of the Ocean Leasing Study undertaken by your office. I find it to be a fully satisfactory result within the scope of your assignment. I was especially impressed by the balance you achieved between protecting public rights while still encouraging entrepreneurial use of an abundant natural resource; i.e., the space and waters of the coastal zone.

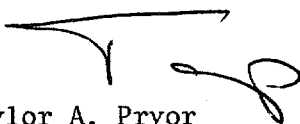
I endorse most of the proposals for legislation for ocean leasing. I do have reservations about a few, especially from the point of view of anyone financing or insuring an offshore aquafarm. For example, what would the cost to a lessee be if required to eradicate a species of plant or animal found outside the leased area? Without some reasonable limit on this demand, who would be willing to accept an open ended risk?

Any such criticism, however, is minor compared to the relative importance of establishing such an overall structure for effective leasing. Your historical perspective and your specific recommendations will surely encourage more commercial development at a time when the aquaculture industry is gaining strength for expansion. Hopefully other island nations will also be able to utilize this structure as their model.

Finally, I should add that only I wish certain other key aspects of marine commercial development could be encouraged with such energy and professionalism.

Thank you for your important contribution.

Sincerely,


Taylor A. Pryor

TAP/fg

THE OCEANIC INSTITUTE

December 5, 1980

Gerald S. Clay
Stanton and Clay
Attorneys at Law
Suite 1655, Pioneer Plaza
900 Fort Street
Honolulu, Hawaii 96813

Dear Jerry:

SUBJECT: Review of Ocean Leasing Study

Thank you for the opportunity to comment on project drafts of this outstanding piece of research. I believe you have fairly presented the various (sometimes opposing) viewpoints and concerns which bear upon the development of a rational ocean leasing law and practice.

I should like to make a few brief comments on the 15 October, 1980, final project draft, Chapter VII, "Proposals for Legislation for Ocean Leasing."

"Section 4 A 3. The Board shall not approve a Conservation District Use Permit (CDUP) for private use of ocean space unless it finds the applicant is competent to perform the activities for which the CDUP is being sought."

Comment: In case of a negative finding, the applicant should be so notified and allowed to request that the Board obtain an independent review of the applicant's competency.

"Section 4 B 1b. The Board shall consider in its evaluation of each application... whether the proposed activity shall have an adverse or permanent effect upon the wildlife or ecology of the immediate and surrounding area."

Comment: We are all aware of the extreme sensitivity of environmental issues in the matter of private use of ocean resources. The above wording should be retained in the proposed legislation, and the Board should be conscious that it may have to develop new technical and political measures of the public good, in which loss of the pristine quality of leased areas will be judged acceptable in return for significant economic gains for the State. A further consideration here is that changes in the environment during or after cessation of farming operations in particular will not necessarily be bad. For instance, fishing success in the vicinity of a farm will certainly improve.

Gerald S. Clay
December 5, 1980
Page two

"Section 7 B. Leases... may be assigned by competitive bid,
at the discretion of the Board."

Comment: Some provision should be made here for the willingness of the initial applicant to submit to a competitive bidding process, e.g., by a priori announcement by the Board that competitive applications either will or will not be entertained for parcels within a given area. It would certainly be unjust to inform an applicant after his application is submitted that competition will be allowed, because in this case "legitimate compensation" could probably not be established without litigation.

"Section 8 A 2 b. ... Failure of the lessee to pay such rent
within 30 days of such date shall constitute ground for cancellation..."

Comment: Provision should be made for relief from this requirement in case of conditions beyond the lessee's control such as weather delays.

"Section 8 A 11. ...the lessee shall provide reasonable means
of public ingress and egress to and from the leased area."

Comment: This paragraph is clearly an attempt to deal with the prior existence of public rights to the use of the ocean for navigation, recreation, etc. Though avoidance of conflict with existing laws is admirable, allowing anyone to sail back and forth through one's farm is totally inconsistent with safety, economy, or security in farm management. Some way will have to be found to provide the private use of his leasehold that the farmer is paying for.

"Section 8 A 12a. Termination of lease for reasons of public
purpose."

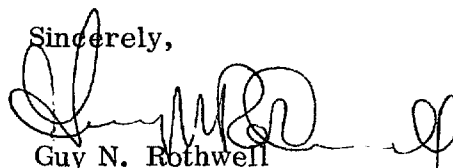
Comment: Specific wording is required here to provide for just compensation to the lessee.

"Section 8 A 14. Public Compensation."

Comment: Specific wording is required here that the burden of proving the monetary value of the lost public resource rests with the State.

Again, thank you for the opportunity to submit comments. I look forward to the early passage of this legislation.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Guy N. Rothwell', followed by a small circular flourish.

Guy N. Rothwell
Senior Engineer

6085 Manukapu Place
Honolulu, Hawaii 96821

November 18, 1980

Mr. Gerald S. Clay
Stanton and Clay
A Law Corporation
Suite 1655, Pioneer Plaza
900 Fort Street
Honolulu, Hawaii 96813

Dear Gerald:

I found the Ocean Leasing Study report to be a very thorough treatment of a fascinating subject. The report is futuristic in its outlook. I also found several sections of the report to be provocative since visions of the future must be presumptive. We each have our own kind of crystal ball shaping our visions of the future. With the passage of time some of our visions turn out to be right on target while others are shown to be nothing more than fantasies. So at the risk of exposing my fantasies let me start with those sections of the report which I found to be somewhat presumptuous.

It has apparently been decided that ... "Fish aggregation buoys, unless part of a true mariculture system, do not meet the legal tests which justify restriction of public access. It is therefore recommended that fish aggregation devices be excluded from ocean leasing legislation at this time" (I-2). I disagree. I see no compelling reasons for singling out fish aggregating devices as not being "true mariculture operations" (III-4). There are serious consequences in making fish aggregating devices illegitimate. Investors would find it very difficult, if not impossible, to secure loans, research grants, and ocean leases. Let's not automatically label fish aggregating devices the illegitimate children of old King Neptune.

The argument is made (III-4) that ... "a declaration of exclusive property rights to fish which gather in a neighborhood of a passive aggregation buoy would be legally questionable". It is implied that since "fish attracted to fish aggregation devices ... do not enhance fish stocks through active husbandry techniques", property rights to attracted fish are not justifiable. The distinction between active and passive has a certain arbitrariness about it. It is probably not a valid reason for legal discrimination. I do not believe that it is appropriate to legally define what "true" mariculture is and what it is not in a report to the Executive and to the Legislature. Mariculture should be defined, as it will be, through the legislative process itself.

In further trying to draw a distinction between "true" mariculture and fish aggregation devices, the report concludes (III-3-4):

"Cultured species are introduced into leased marine waters; they do not exist in commercially exploitable quantities beforehand. Therefore, the mariculturist in establishing a new resource in the leased area. He is not removing significant quantities of pre-existing common seafood resources from public access. "Mariculture is a form of breeding, not fishing, and once the activity is established, it is not competing with other fishermen."⁷" (Emphasis supplied)

All of these definitional criteria are in themselves directly applicable to fish aggregation buoys (FABs). It is the FABs that are responsible for concentrating or "introducing" fish where they did not exist beforehand. While the attracted fish "pre-existed" somewhere else in the ocean prior to the deployment of the buoys, it is the aggregating power of the buoys that in effect establishes new resources in the ocean area around the buoys. The resources would not be there in the same abundance were it not for the buoys. Breeding should not be the sole criteria for defining "true" mariculture. There are many examples of aquaculture and mariculture ventures that use juveniles captured from the wilds in their "grow-out" operations. No one calls these operations illegitimate.

I do not believe that it is necessary to come up with a legal distinction between fish attraction and fish cultivation. The report hints that ocean ranching for salmon may be within the proper definition of mariculture because "the fish specifically cultured could be considered animus revertendi (having the intention of returning), and a recognition of private rights could be made (III-4). Does the biochemical mechanism behind salmon migration possess any more legal validity than the mechanism that drives aku migrations? Again a certain arbitrariness in definition is apparent. Surmising the intent of fish is best left to animal behaviorists and not to legal scholars.

All mariculture operations, be they oyster culturing or salmon farming, have a certain publicness about them. Oysters and clams "graze" on the nutrients brought to them by the tides and currents. Artificially hatched salmon forage on common property prey resources. Ranchers pay a fee to government for the privilege of fattening their cattle on National Forest lands. The cattle are nevertheless private property and anyone caught poaching them would go to jail. The same type of thinking can be extended to include fish concentrated around fish aggregation devices. Why should the exclusion principle apply to fenced in animals to protect the private property of whoever invested in the fence, while fish attracted to a man-made buoy would not be accorded the same treatment? Does the fence have to be visible to be legally valid? We must not be shortsighted by fences in our minds.

I am fully aware of what the staff is trying to do: prevent fat cat sport and commercial fishermen and from appropriating large areas of ocean space for their own exclusive use simply because they invested in fish aggregating devices. But the potential problem of protecting the public trust from such abuses can be dealt with in a much more rational manner than by labeling all fish aggregating devices as not being true mariculture. There are 648,000 square miles of ocean surrounding the Hawaiian Archipelago. Only a very small

fraction of this vast area is actually fished by the Hawaii public. What if I wanted to invest in a series of fish aggregating buoys for commercial fishing (mariculture?) purposes? The buoys would be located far away from areas of public fishing, say in the waters of the Northwest Hawaiian Islands. Under the thinking of this report, I would not be able to secure a lease or a mariculture license from the State. Protecting the public trust should not be done at the expense of precluding certain kinds of mariculture possibilities from happening. That would be discriminatory legislation that could, perhaps, be challenged in the courts.

To quote the report (III-4): "In a true mariculture operation, 'the mariculturist is not preventing the fishermen from exploiting an ocean resource; he is only preventing them from using a small area and causing incidental consequences of resource-area concentration. The consequences produced by fish aggregation devices, however, are not incidental to public fishing.'" Again, such reasoning is applicable to fish aggregating buoys. An investor in fish aggregating devices, if he were able to secure a lease, would only be preventing fishermen from exploiting the fish in the proximity of the buoys. He would only be preventing fishermen from using an extremely minute area relative to the total amount of fishable ocean space, and the consequences produced by fish aggregation devices would produce no effects or, at worst, only incidental effects to public fishing. The amount of aku "trapped" by the attracting power of the buoys would be infinitesimally small compared to the amount of transient aku found in the ocean.

Other than disagreeing with the report on the "maricultureness" of fish aggregating device, I found the report delightful and very complete in its inclusion of relevant legal arguments, case laws, and statutory references. I whole-heartedly agree that Hawaii could use an Ocean Leasing Act.

Only two years ago, the Constitution of the State of Hawaii was silent on the issues of mariculture uses of submerged lands and ocean waters. Public lands are defined in the Hawaii Revised Statutes as including submerged lands within the territorial limits of the State. The Statutes, however, do not contain any explicit policies for leasing submerged lands for mariculture purposes that are owned and controlled by the State, nor do they provide any guidance to the Executive Branch of State Government for establishing procedures to accommodate mariculture in the public waters overlying the submerged lands.

The State Constitution now expressly provides for the right to establish mariculture operations within the boundaries of the State, including the archipelagic waters of the State. Elected delegates to the 1978 Hawaii Constitutional Convention chose to adopt an amendment to the Constitution establishing a right of opportunity for mariculturists to use submerged lands and ocean waters. The voters of Hawaii, by their strong endorsement of this amendment, have presented a clear challenge to the Legislature to drape the bare bones of this constitutional provision with a cloth of substance.

The State Legislature must now provide guidelines for the protection of the public's traditional and reserved right to use and enjoy the reefs and coastal waters while accommodating aquaculture uses. Long established public

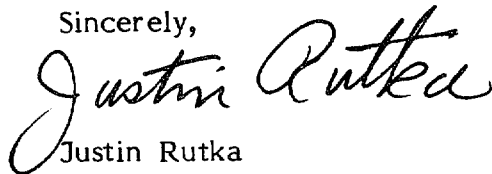
rights of access to and use of coastal waters should be balanced by the recognition of the needs of State-licensed mariculturists for protecting their investments. The constitutional right to freely fish, swim, and navigate in the shore and seawaters of the State need not mean or imply that mariculture is inconsistent with this aspect of the public trust. The State has long reserved to itself the right to regulate public uses of coastal waters. Flexibility in policy formulation is needed if the growth potentials of seawater aquaculture are to be realized. This constitutional amendment, in my mind, not only recognizes the potential growth significance of saltwater aquaculture in Hawaii, but also provides a catalyst to encourage innovation in open water mariculture. Fish aggregation buoys would be vital to these exciting scientific endeavors.

An Ocean Leasing Act should provide for continued public interest protections while not precluding certain private capital ocean development projects from happening. Hawaii would benefit if the Legislature chose to enact an ocean leasing program. It seems that law is normally several steps behind technology. We should try to act non-conventional for a change by putting the law before technology.

I was a bit puzzled by certain provisions of the Ocean Leasing legislative proposal as drafted by the authors. Section 6 (Ocean Resources Liaison Offices) is a premature suggestion since the entire subject of ocean utilization needs to be assessed in detail before recommending the initial makings of institutional reorganization and placement within a lead department. Consolidation and not fragmentation of roles is needed. Section 9 (Ocean Parks) is also premature. Section 15 (Mariculture Insurance Program) is much too premature; it should be deleted at this time. Section 16 is a invitation for bureaucratic haggling. It should stay in the draft legislation to test the political waters. Which agency is worthy of the lead role in planning for ocean affairs remains to be seen.

Congratulations on an excellent study. It has been a pleasure serving on the Ocean Leasing Study Advisory Review Committee.

Sincerely,


Justin Rutka